

Advanced Master's Degree MBA in Artificial Intelligence in Computer Programming

Accreditation/Membership



tech global
university



Advanced Master's Degree MBA in Artificial Intelligence in Computer Programming

- » Modality: online
- » Duration: 2 years
- » Certificate: TECH Global University
- » Accreditation: 120 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: www.techtute.com/us/artificial-intelligence/advanced-master-degree/advanced-master-degree-mba-artificial-intelligence-computer-programming

Index

01

Introduction to the Program

p. 4

02

Why Study at TECH?

p. 8

03

Syllabus

p. 12

04

Teaching Objectives

p. 42

05

Career Opportunities

p. 50

06

Software Licenses Included

p. 54

07

Study Methodology

p. 58

08

Teaching Staff

p. 68

09

Certificate

p. 88

01

Introduction to the Program

Artificial Intelligence (AI) is transforming the world in a truly remarkable way. From the creation of advanced models like "Alia," the first foundational system, to the revolution in quantum computing with Google's "Willow" chip, capable of solving problems previously unimaginable in minutes, advancements in this field are truly impressive. This is no coincidence, but rather the result of the work of highly skilled professionals who combine technical expertise, innovative thinking, and ethics. By mastering programming languages and machine learning algorithms, these experts turn complex challenges into opportunities that redefine industries. In response to these growing demands, TECH designed an innovative university program to enhance the knowledge of the best professionals in this key discipline.



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A comprehensive and 100% online program, exclusive to TECH, with an international perspective backed by our membership in the Business Graduates Association”

With advanced tools that automate tasks, improve accuracy, and develop customized applications, AI is consolidating itself as a driving force in areas such as education, Computer Programming, and business management. For this reason, with the integration of autonomous tools and Quantum Computing, AI promises to further revolutionize Software development, solving complex problems and redefining technological boundaries.

To prepare professionals for this future, TECH Global University offers an innovative curriculum and cutting-edge methodology. In this sense, the Advanced Master's Degree MBA in Artificial Intelligence in Computer Programming will cover everything from the key role of data and the theoretical foundations of neural networks to the development of deep learning. Additionally, it will foster the design of solid and scalable Information Systems, equipping professionals to lead in a tech-driven business environment.

This comprehensive, 100% online, and flexible program responds to the need for professionals with expertise in these areas and only requires a device with an internet connection. Furthermore, it is supported by the Relearning methodology, which is based on the strategic repetition of key concepts to ensure the effective and lasting assimilation of content. As a result, the specialist will enjoy the benefit of a university program with no fixed schedules, ensuring maximum flexibility. In addition, they will have access to an exclusive selection of Masterclasses delivered by distinguished International Guest Directors.

Furthermore, thanks to TECH's membership in the **Business Graduates Association (BGA)**, students will have access to exclusive and up-to-date resources that will strengthen their continuous learning and professional development, as well as discounts on professional events that will facilitate networking with industry experts. Additionally, they will be able to expand their professional network by connecting with specialists from different regions, fostering the exchange of knowledge and new job opportunities.

This **Advanced Master's Degree MBA Degree in Artificial Intelligence in Computer Programming** contains the most complete and up-to-date university program on the market. Its most notable features are:

- ◆ Development of practical cases presented by experts in Artificial Intelligence
- ◆ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ◆ Practical exercises where the self-assessment process can be carried out to improve learning
- ◆ Special emphasis on Innovative Methodologies in Artificial Intelligence in Computer Programming
- ◆ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ◆ Content that is accessible from any fixed or portable device with an internet connection



Through specialized Masterclasses, you will immerse yourself in the latest industry trends, broaden your global perspective, and develop key competencies that will enhance your growth”

“

In this Advanced Master's Degree MBA, you will learn how to connect with the most advanced technologies and design intelligent solutions that transform computer programming”

It includes in its teaching staff professionals belonging to the field of Artificial Intelligence, who pour into this program the experience of their work, in addition to recognized specialists from reference societies and prestigious universities.

Its multimedia content, developed with the latest educational technology, will offer professionals a situated and contextualized learning experience—meaning a simulated environment that provides an immersive study experience designed to train you for real-life situations.

This program is designed around Problem-Based Learning, whereby the student must try to solve the different professional practice situations that arise throughout the program. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

With TECH, combine the best of traditional programming with the latest innovations in Artificial Intelligence.

Meet the challenge of the modern professional: be dynamic, adaptive, and learn from anywhere in the world while specializing.



02

Why Study at TECH?

TECH is the world's largest online university. With an impressive catalog of more than 14,000 university programs, available in 11 languages, it is positioned as a leader in employability, with a 99% job placement rate. In addition, it has a huge faculty of more than 6,000 professors of the highest international prestige.



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Study at the largest online university in the world and ensure your professional success. The future begins at TECH”

The world's best online university, according to FORBES

The prestigious Forbes magazine, specialized in business and finance, has highlighted TECH as "the best online university in the world" This is what they have recently stated in an article in their digital edition in which they echo the success story of this institution, "thanks to the academic offer it provides, the selection of its teaching staff, and an innovative learning method oriented to form the professionals of the future".

Forbes
The best online university in the world

The most complete
syllabus

The most complete syllabuses on the university scene

TECH offers the most complete syllabuses on the university scene, with programs that cover fundamental concepts and, at the same time, the main scientific advances in their specific scientific areas. In addition, these programs are continuously updated to guarantee students the academic vanguard and the most demanded professional skills and the most in-demand professional competencies. In this way, the university's qualifications provide its graduates with a significant advantage to propel their careers to success.

The best top international faculty

TECH's faculty is made up of more than 6,000 professors of the highest international prestige. Professors, researchers and top executives of multinational companies, including Isaiah Covington, performance coach of the Boston Celtics; Magda Romanska, principal investigator at Harvard MetaLAB; Ignacio Wistumba, chairman of the department of translational molecular pathology at MD Anderson Cancer Center; and D.W. Pine, creative director of TIME magazine, among others.

TOP
international faculty

The world's largest online university

TECH is the world's largest online university. We are the largest educational institution, with the best and widest digital educational catalog, one hundred percent online and covering most areas of knowledge. We offer the largest selection of our own degrees and accredited online undergraduate and postgraduate degrees. In total, more than 14,000 university programs, in ten different languages, making us the largest educational institution in the world.

World's No.1
The World's largest online university

The most effective methodology

A unique learning method

TECH is the first university to use Relearning in all its programs. This is the best online learning methodology, accredited with international teaching quality certifications, provided by prestigious educational agencies. In addition, this innovative academic model is complemented by the "Case Method", thereby configuring a unique online teaching strategy. Innovative teaching resources are also implemented, including detailed videos, infographics and interactive summaries.

The official online university of the NBA

TECH is the official online university of the NBA. Thanks to our agreement with the biggest league in basketball, we offer our students exclusive university programs, as well as a wide variety of educational resources focused on the business of the league and other areas of the sports industry. Each program is made up of a uniquely designed syllabus and features exceptional guest hosts: professionals with a distinguished sports background who will offer their expertise on the most relevant topics.

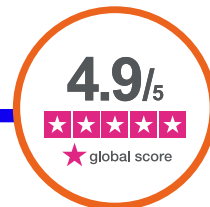
Leaders in employability

TECH has become the leading university in employability. Ninety-nine percent of its students obtain jobs in the academic field they have studied within one year of completing any of the university's programs. A similar number achieve immediate career enhancement. All this thanks to a study methodology that bases its effectiveness on the acquisition of practical skills, which are absolutely necessary for professional development.



Google Premier Partner

The American technology giant has awarded TECH the Google Premier Partner badge. This award, which is only available to 3% of the world's companies, highlights the efficient, flexible and tailored experience that this university provides to students. The recognition not only accredits the maximum rigor, performance and investment in TECH's digital infrastructures, but also places this university as one of the world's leading technology companies.



The top-rated university by its students

Students have positioned TECH as the world's top-rated university on the main review websites, with a highest rating of 4.9 out of 5, obtained from more than 1,000 reviews. These results consolidate TECH as the benchmark university institution at an international level, reflecting the excellence and positive impact of its educational model.



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There are no limits to what you can achieve when you combine your creativity with the power of Artificial Intelligence. Join now and learn to master this incredible world!”

Module 1. Leadership, Ethics, and Corporate Social Responsibility

- 1.1. Globalization and Governance
 - 1.1.1. Globalization and Trends: Market Internationalization
 - 1.1.2. Economic Environment and Corporate Governance
 - 1.1.3. Accountability
- 1.2. Leadership
 - 1.2.1. Intercultural Environment
 - 1.2.2. Leadership and Business Management
 - 1.2.3. Management Roles and Responsibilities
- 1.3. *Cross-Cultural Management*
 - 1.3.1. Cultural Dimension of International Management
 - 1.3.2. Globalization in Business Management
 - 1.3.3. Inter-Cultural Leadership
- 1.4. Management and Leadership
 - 1.4.1. Integrating Functional Strategies into the Global Business Strategies
 - 1.4.2. Management Policy and Processes
 - 1.4.3. *Society and Enterprise*
- 1.5. Business Ethics
 - 1.5.1. Ethics and Integrity
 - 1.5.2. Ethical Behavior in Companies
 - 1.5.3. Deontology, Codes of Ethics and Codes of Conduct
 - 1.5.4. Fraud and Corruption Prevention
 - 1.5.5. Responsible Finance and Investment
- 1.6. Sustainability
 - 1.6.1. Business and Sustainable Development
 - 1.6.2. Social, Environmental, and Economic Impact
 - 1.6.3. The 2030 Agenda and the SDGs
- 1.7. Corporate Social Responsibility
 - 1.7.1. Corporate Social Responsibility
 - 1.7.2. Roles and Responsibilities
 - 1.7.3. Implementing Corporate Social Responsibility

- 1.8. Systems and Tools for Responsible Management
 - 1.8.1. Social Responsibility Management Systems
 - 1.8.2. Integration Systems
 - 1.8.3. Quality, Environment, and Occupational Health and Safety Management Systems
 - 1.8.4. Audits
- 1.9. Multinationals and Human Rights
 - 1.9.1. Globalization, Human Rights, and Multinational Companies
 - 1.9.2. Multinational Companies and International Law
 - 1.9.3. Specific Legal Instruments
- 1.10. Legal Environment and Corporate Governance
 - 1.10.1. International Import and Export Regulations
 - 1.10.2. Intellectual and Industrial Property
 - 1.10.3. International Labor Law

Module 2. Strategic Management and Executive Management

- 2.1. Organizational Analysis and Design
 - 2.1.1. Organizational Culture
 - 2.1.2. Organizational Analysis
 - 2.1.3. Designing the Organizational Structure
- 2.2. Corporate Strategy
 - 2.2.1. Corporate-Level Strategy
 - 2.2.2. Types of Corporate-Level Strategies
 - 2.2.3. Determining the Corporate Strategy
 - 2.2.4. Corporate Strategy and Reputational Image
- 2.3. Strategic Planning and Strategy Formulation
 - 2.3.1. Strategic Thinking
 - 2.3.2. Strategic Planning and Formulation
 - 2.3.3. Sustainability and Corporate Strategy
- 2.4. Implementation of Corporate Strategies
 - 2.4.1. *Driving Corporate Strategy*
 - 2.4.2. *Pacing Corporate Strategy*
 - 2.4.3. *Framing Corporate Strategy*

- 2.5. New Business Development and Business Consolidation
 - 2.5.1. Developing New Businesses
 - 2.5.2. Growing and Consolidating Companies
- 2.6. Planning and Strategy
 - 2.6.1. The Relevance of Strategic Direction in the Management Control Process
 - 2.6.2. Analysis of the Environment and the Organization
 - 2.6.3. *Lean Management*
- 2.7. Strategy Models and Patterns
 - 2.7.1. Wealth, Value, and Return on Investments
 - 2.7.2. Corporate Strategy: Methodologies
 - 2.7.3. Growing and Consolidating the Corporate Strategy
- 2.8. Competitive Strategy
 - 2.8.1. Market Analysis
 - 2.8.2. Sustainable Competitive Advantage
 - 2.8.3. Return on Investment
- 2.9. Strategic Management
 - 2.9.1. Strategic Mission, Vision, and Values
 - 2.9.2. Balanced Scorecard
 - 2.9.3. Analyzing, Monitoring, and Evaluating the Corporate Strategy
 - 2.9.4. Strategic Management and Reporting
- 2.10. Strategy Implementation
 - 2.10.1. Strategic Implementation: Objectives, Actions and Impacts
 - 2.10.2. Supervision and Strategic Alignment
 - 2.10.3. Continuous Improvement Approach
- 2.11. Strategy Execution
 - 2.11.1. Indicator Systems and Process Approach
 - 2.11.2. Strategic Map
 - 2.11.3. Differentiation and Alignment
- 2.12. Strategic Communication
 - 2.12.1. Interpersonal Communication
 - 2.12.2. Communication Skills and Influence
 - 2.12.3. Internal Communication and Comprehensive Communication Plan
 - 2.12.4. Barriers to Business Communication

Module 3. People and Talent Management

- 3.1. Organizational Behavior
 - 3.1.1. Organizational Theory
 - 3.1.2. Key Factors for Change in Organizations
 - 3.1.3. Corporate Strategies, Types, and Knowledge Management
 - 3.1.4. Organizational Culture
 - 3.1.5. Behavior and Organizational Changes
 - 3.1.6. People in Organizations
 - 3.1.7. Strategic Thinking and Systems
 - 3.1.8. Strategic Organizational Design
- 3.2. People in Organizations
 - 3.2.1. Quality of Work Life and Psychological Well-Being
 - 3.2.2. Work Teams and Meeting Management
 - 3.2.3. Coaching and Team Management
 - 3.2.4. Managing Equality and Diversity
- 3.3. Strategic People Management
 - 3.3.1. Job Design, Recruitment, and Selection
 - 3.3.2. Human Resources Strategic Plan: Design and Implementation
 - 3.3.3. Job Analysis: Design and Selection of People
 - 3.3.4. Training and Professional Development
- 3.4. Job Analysis
- 3.5. Competency-Based Human Resources Management
- 3.6. Performance Evaluation and Performance Management
- 3.7. Training Management
- 3.8. Talent Management
- 3.9. Innovation in Talent and People Management
- 3.10. Motivation
- 3.11. *Employer Branding*
- 3.12. Development of High-Performance Teams

- 3.13. Management and Leadership Development
 - 3.13.1. Management Skills: 21st Century Skills and Abilities
 - 3.13.2. Non-Managerial Skills
 - 3.13.3. Map of Skills and Abilities
 - 3.13.4. Leadership and People Management
- 3.14. Time Management
 - 3.14.1. Planning, Organization and Control
 - 3.14.2. The Methodology of Time Management
 - 3.14.3. Action Plans
 - 3.14.4. Tools for Efficient Time Management
- 3.15. Change Management
 - 3.15.1. Performance Analysis
 - 3.15.2. Strategic Approach
 - 3.15.3. Change Management: Key Factors, Process Design and Management
 - 3.15.4. Continuous Improvement Approach
- 3.16. Negotiation and Conflict Management
 - 3.16.1. Negotiation Objectives: Differentiating Elements
 - 3.16.2. Effective Negotiation Techniques
 - 3.16.3. Conflicts: Factors and Types
 - 3.16.4. Efficient Conflict Management: Negotiation and Communication
 - 3.16.5. Interpersonal Communication
 - 3.16.6. Interpersonal Conflicts
 - 3.16.7. Intercultural Negotiation
- 3.17. Executive Communication
 - 3.17.1. Performance Analysis
 - 3.17.2. Leading Change. Resistance to Change
 - 3.17.3. Managing Change Processes
 - 3.17.4. Multicultural Team Management
- 3.18. Human Resources Management and Occupational Risk Prevention Teams
 - 3.18.1. Human Resources Management
 - 3.18.2. Team Management
 - 3.18.3. Occupational Risk Prevention Plan
- 3.19. Productivity, Attraction, Retention and Activation of Talent
 - 3.19.1. Productivity
 - 3.19.2. Levers for Productivity
 - 3.19.3. Talent Attraction, Retention and Attraction Levers
- 3.20. Monetary Compensation vs. Non-Cash
 - 3.20.1. Wage Band Models
 - 3.20.2. Non-Cash Compensation Models
 - 3.20.3. Monetary Compensation vs. Non-Cash
- 3.21. Team Management and People Performance
 - 3.21.1. Multicultural and Multidisciplinary Environment
 - 3.21.2. Team and People Management
 - 3.21.3. Coaching and People Performance
 - 3.21.4. Executive Meetings: Planning and Time Management
- 3.22. Knowledge and Talent Management
 - 3.22.1. Identifying Knowledge and Talent in Organizations
 - 3.22.2. Corporate Knowledge and Talent Management Models
 - 3.22.3. Creativity and Innovation
- 3.23. Transforming Human Resources in the Digital Era
 - 3.23.1. New Forms of Organization and New Work Methodologies
 - 3.23.2. Digital Skills and Professional Brand
 - 3.23.3. HR and Data Analysis
 - 3.23.4. Managing People in the Digital Age

Module 4. Economic and Financial Management

- 4.1. Economic Environment
 - 4.1.1. Organizational Theory
 - 4.1.2. Key Factors for Change in Organizations
 - 4.1.3. Corporate Strategies, Types, and Knowledge Management
- 4.2. Company Financing
 - 4.2.1. Sources of Financing
 - 4.2.2. Types of Financing Costs
 - 4.2.2.1. Equity Cost of Capital
 - 4.2.2.2. Cost of Debt
 - 4.2.2.3. The Weighted Average Cost of Capital (WACC) in the Valuation of Investment Projects
- 4.3. Managerial Accounting
 - 4.3.1. International Accounting Framework
 - 4.3.2. Introduction to the Accounting Cycle
 - 4.3.3. Company Financial Statements
- 4.4. From General Accounting to Cost Accounting
 - 4.4.1. Elements of Cost Calculation
 - 4.4.2. Stock in General Accounting and Cost Accounting
 - 4.4.3. Expense in General Accounting and Cost Accounting
 - 4.4.4. Costs Classification
- 4.5. Information Systems and Business Intelligence
 - 4.5.1. Fundamentals and Classification
 - 4.5.2. Cost Allocation Phases and Methods
 - 4.5.3. Choice of Cost Center and Impact
- 4.6. Budget and Management Control
 - 4.6.1. Budgetary Planning
 - 4.6.2. Management Control: Design and Objectives
 - 4.6.3. Supervision and Reporting
- 4.7. Treasury Management
 - 4.7.1. Accounting Working Capital and Necessary Working Capital
 - 4.7.2. Calculation of Operating Cash Requirements
 - 4.7.3. *Credit Management*
 - 4.7.4. Management of Funds, Wealth and Family Offices
- 4.8. Corporate Tax Liability
 - 4.8.1. Corporate Tax Responsibility
 - 4.8.2. Tax Procedure: A Case-Country Approach
- 4.9. Corporate Control Systems
 - 4.9.1. Types of Control
 - 4.9.2. Regulatory Compliance
 - 4.9.3. Internal Auditing
 - 4.9.4. External Auditing
- 4.10. Financial Management
 - 4.10.1. Introduction to Financial Management
 - 4.10.2. Financial Management and Corporate Strategy
 - 4.10.3. Chief Financial Officer (CFO): Executive Competencies
- 4.11. Financial Planning
 - 4.11.1. Business Models and Financing Needs
 - 4.11.2. Financial Analysis Tools
 - 4.11.3. Short-Term Financial Planning
 - 4.11.4. Long-Term Financial Planning
- 4.12. Corporate Financial Strategy
 - 4.12.1. Corporate Financial Investments
 - 4.12.2. Strategic Growth: Types
- 4.13. Macroeconomic Context
 - 4.13.1. Macroeconomic Analysis
 - 4.13.2. Economic Indicators
 - 4.13.3. Economic Cycle

- 4.14. Strategic Financing
 - 4.14.1. The Banking Business: Current Environment
 - 4.14.2. Risk Analysis and Management
- 4.15. Money and Capital Markets
 - 4.15.1. Fixed Income Market
 - 4.15.2. Equity Market
 - 4.15.3. Company Valuation
- 4.16. Financial Analysis and Planning
 - 4.16.1. Analysis of the Balance Sheet
 - 4.16.2. Income Statement Analysis
 - 4.16.3. Profitability Analysis
- 4.17. Analyzing and Solving Cases/Problems
 - 4.17.1. Problem Solving Methodology
 - 4.17.2. Case Method

Module 5. Operations and Logistics Management

- 5.1. Operations Direction and Management
 - 5.1.1. Define the Operations Strategy
 - 5.1.2. Supply Chain Planning and Control
 - 5.1.3. Indicator Systems
- 5.2. Industrial Organization and Logistics
 - 5.2.1. Industrial Organization Department
 - 5.2.2. Internal Logistics Department
 - 5.2.3. External Logistics Department
- 5.3. Structure and Types of Production (MTS, MTO, ATO, ETO etc.)
 - 5.3.1. Production Systems and Strategies
 - 5.3.2. Inventory Management System
 - 5.3.3. Production Indicators
- 5.4. Structure and Types of Procurement
 - 5.4.1. Function of Procurement
 - 5.4.2. Procurement Management
 - 5.4.3. The Buying Decision Process

- 5.5. Economic Control of Purchasing
 - 5.5.1. Advanced Warehouse Design
 - 5.5.2. Picking and Sorting
 - 5.5.3. Material Flow Control
- 5.6. Warehouse Operations Control
 - 5.6.1. Warehouse Operations
 - 5.6.2. Inventory Control and Location Systems
 - 5.6.3. Stock Management Techniques
- 5.7. Purchasing Management
 - 5.7.1. Stock Management
 - 5.7.2. Warehouse Management
 - 5.7.3. Purchasing and Procurement Management
- 5.8. Typologies of the Supply Chain (SCM)
 - 5.8.1. Supply Chain
 - 5.8.2. Benefits of Supply Chain Management
 - 5.8.3. Logistical Management in the Supply Chain
- 5.9. *Supply Chain Management*
 - 5.9.1. Costs and Efficiency of the Operations Chain
 - 5.9.2. Change in Demand Patterns
 - 5.9.3. Change in Operations Strategy
- 5.10. Interactions Between the SCM and All Other Departments
 - 5.10.1. Areas to Consider in the Interaction
 - 5.10.2. SCM Interrelations
 - 5.10.3. Integration Problems in the SCM
- 5.11. Logistics Costs
 - 5.11.1. Costs to Consider According to Each Area
 - 5.11.2. Problems with Logistics Costs
 - 5.11.3. Optimizing Logistic Costs
- 5.12. Profitability and Efficiency of Logistics Chains: KPIs
 - 5.12.1. Profitability and Efficiency of Mediations
 - 5.12.2. General Indicators of Logistic Chains
 - 5.12.3. Specific Indicators

- 5.13. Logistics Processes
 - 5.13.1. Organization and Management by Processes
 - 5.13.2. Procurement, Production, Distribution
 - 5.13.3. Quality, Quality Costs and Tools
 - 5.13.4. After-Sales Service
- 5.14. Transportation Logistics and Customer Distribution
 - 5.14.1. Demand Analysis and Forecasting
 - 5.14.2. Sales Forecasting and Planning
 - 5.14.3. *Collaborative Planning, Forecasting, and Replenishment*
- 5.15. Logistics and Customers
 - 5.15.1. Demand Analysis and Forecasting
 - 5.15.2. Sales Forecasting and Planning
 - 5.15.3. *Collaborative Planning, Forecasting, and Replenishment*
- 5.16. International Logistics
 - 5.16.1. Customs, Export and Import Processes
 - 5.16.2. Forms and Methods of International Payment
 - 5.16.3. International Logistics Platforms
- 5.17. Outsourcing of Operations
 - 5.17.1. Customs, Export and Import Processes
 - 5.17.2. Forms and Methods of International Payment
 - 5.17.3. International Logistics Platforms
- 5.18. Competitiveness in Operations
 - 5.18.1. Innovation in Operations as a Competitive Advantage in the Company
 - 5.18.2. Emerging Technologies and Sciences
 - 5.18.3. Information Systems in Operations
- 5.19. Quality Management
 - 5.19.1. Total Quality
 - 5.19.2. ISO 9001:2015 Quality Management System
 - 5.19.3. Integrated Management System
 - 5.19.4. Excellence in Management: EFQM Model
 - 5.19.5. Quality Tools

Module 6. Information Systems Management

- 6.1. Technological Environment
 - 6.1.1. Business Information Systems
 - 6.1.2. Strategic Decisions
 - 6.1.3. The Role of the CIO
- 6.2. Information Systems and Technologies in the Company
 - 6.2.1. The Evolution of the IT Model
 - 6.2.2. Organization and IT Department
 - 6.2.3. Information Technology and Economic Environment
- 6.3. Corporate Strategy and Technological Strategy
 - 6.3.1. Creating Value for Customers and Shareholders
 - 6.3.2. Strategic IS/IT Decisions
 - 6.3.3. Corporate Strategy vs. Technology and Digital Strategy
- 6.4. Information Systems Management
 - 6.4.1. Company and Industry Sector Analysis
 - 6.4.2. Internet-Based Business Models
 - 6.4.3. The Value of IT in a Company
- 6.5. Information Technology Strategic Planning
 - 6.5.1. The Process of Strategic Planning
 - 6.5.2. Formulating the IS Strategy
 - 6.5.3. Strategy Implementation Plan
- 6.6. Information Systems for Decision-Making
 - 6.6.1. *Business Intelligence*
 - 6.6.2. *Data Warehouse*
 - 6.6.3. Balanced Scorecard (BSC)
- 6.7. Information Systems and Business Intelligence
 - 6.7.1. CRM and Business Intelligence
 - 6.7.2. Business Intelligence Project Management
 - 6.7.3. Business Intelligence Architecture

- 6.8. Corporate Business Intelligence
 - 6.8.1. The World of Data
 - 6.8.2. Relevant Concepts
 - 6.8.3. Main Characteristics
 - 6.8.4. Solutions in Today's Market
 - 6.8.5. Overall Architecture of a BI Solution
 - 6.8.6. Cybersecurity in BI and Data Science
- 6.9. New Business Concept
 - 6.9.1. Why BI
 - 6.9.2. Obtaining Information
 - 6.9.3. BI in the Different Departments of the Company
 - 6.9.4. Reasons to Invest in BI
- 6.10. BI Tools and Solutions
 - 6.10.1. Choosing the Best Tool
 - 6.10.2. Microsoft Power BI, MicroStrategy and Tableau
 - 6.10.3. SAP BI, SAS BI and Qlikview
 - 6.10.4. Prometheus
- 6.11. BI Project Planning and Management
 - 6.11.1. First Steps to Define a BI Project
 - 6.11.2. BI Solution for Your Company
 - 6.11.3. Requirements and Objectives
- 6.12. Corporate Management Applications
 - 6.12.1. Technology-Based Business Models
 - 6.12.2. Innovation Abilities
 - 6.12.3. Redesigning the Value Chain Processes
- 6.13. Digital Transformation
 - 6.13.1. E-Commerce Strategic Plan
 - 6.13.2. Logistics Management and Customer Service in E-Commerce
 - 6.13.3. E-Commerce as an Opportunity for Internationalization
- 6.14. Technology and Trends
 - 6.14.1. Social Media Strategies
 - 6.14.2. Optimizing Service Channels and Customer Support
 - 6.14.3. Digital Regulation

- 6.15. IT Outsourcing
 - 6.15.1. *Mobile eCommerce*
 - 6.15.2. Design and Usability
 - 6.15.3. E-Commerce Operations

Module 7. Commercial Management, Strategic Marketing, and Corporate Communication

- 7.1. Commercial Management
 - 7.1.1. Framework Concept of Innovation
 - 7.1.2. Types of Innovation
 - 7.1.3. Continuous and Discontinuous Innovation
 - 7.1.4. Training and Innovation
- 7.2. Marketing
 - 7.2.1. Innovation and Corporate Strategy
 - 7.2.2. Global Innovation Project: Design and Management
 - 7.2.3. Innovation Workshops
- 7.3. Strategic Marketing Management
 - 7.3.1. The Lean Start-Up Methodology
 - 7.3.2. Innovative Business Initiative: Stages
 - 7.3.3. Financing Arrangements
 - 7.3.4. Model Tools: Empathy Map, Canvas Model, and Metrics
 - 7.3.5. Growth and Loyalty
- 7.4. Digital Marketing and E-Commerce
- 7.5. *Managing Digital Business*
- 7.6. Digital Marketing to Reinforce a Brand
- 7.7. Digital Marketing Strategy
 - 7.7.1. Innovation Opportunities
 - 7.7.2. Feasibility Study and Proposal Specification
 - 7.7.3. Project Definition and Design
 - 7.7.4. Project Implementation
 - 7.7.5. Project Closure

- 7.8. Digital Marketing for Customer Acquisition and Retention
- 7.9. Managing Digital Campaigns
- 7.10. Online Marketing Plan
- 7.11. Blended Marketing
- 7.12. Sales and Communication Strategy
- 7.13. Corporate Communication in Human Resources
- 7.14. Corporate Communication Strategy
- 7.15. Communication and Digital Reputation
 - 7.15.1. Crisis Management and Online Corporate Reputation
 - 7.15.2. Online Reputation Report
 - 7.15.3. Netiquette and Good Practices on Social Media
 - 7.15.4. Branding and Networking 2.0

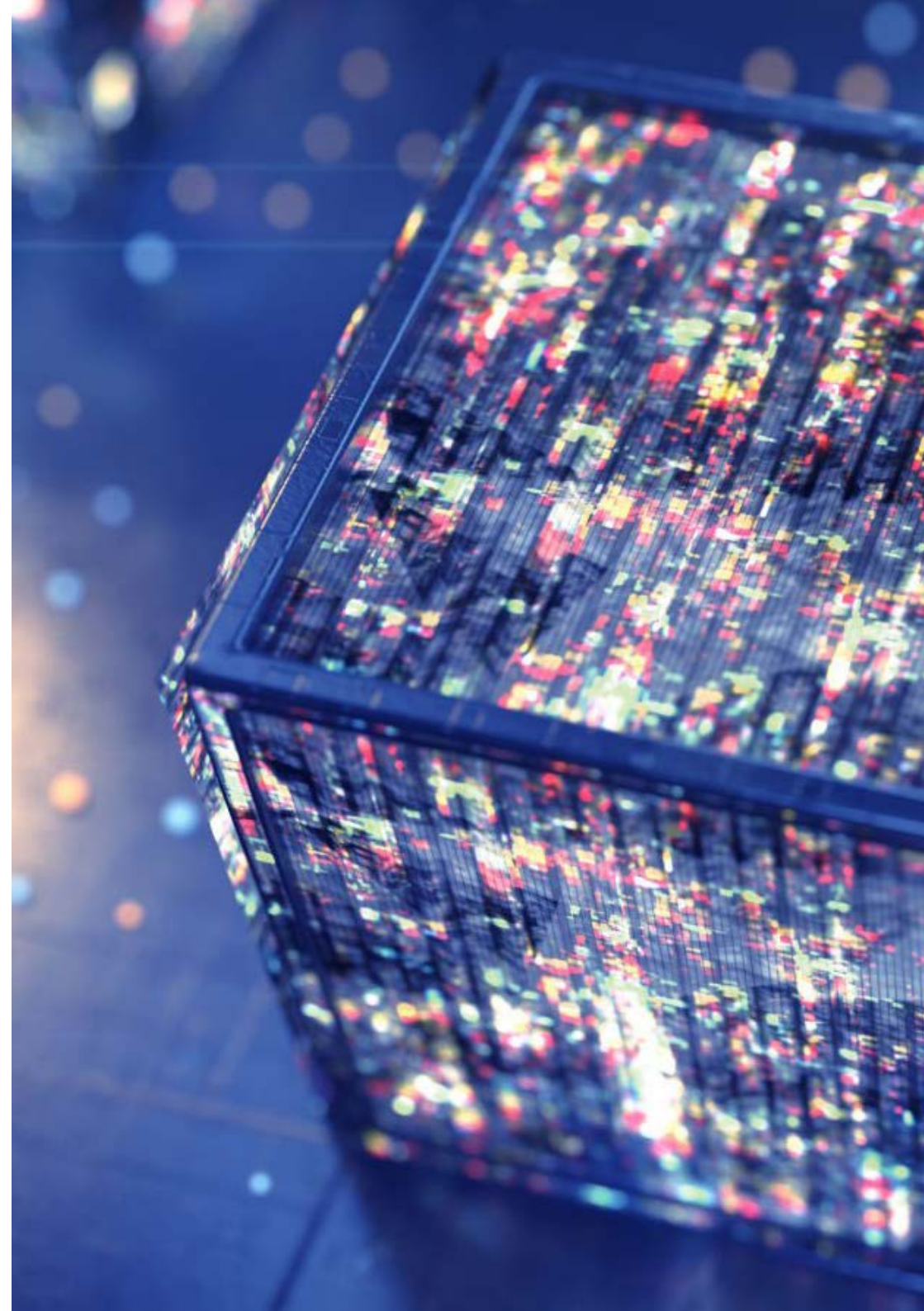
Module 8. Market Research, Advertising and Commercial Management

- 8.1. Market Research (Commercial Management)
 - 8.1.1. Sales Management
 - 8.1.2. Commercial Strategy
 - 8.1.3. Sales and Negotiation Techniques
 - 8.1.4. Management of Sales Teams
- 8.2. Quantitative Research Methods and Techniques
 - 8.2.1. Variables and Measurement Scales
 - 8.2.2. Sources of Information
 - 8.2.3. Sampling Techniques
 - 8.2.4. The Treatment and Analysis of Data
- 8.3. Qualitative Research Methods and Techniques
 - 8.3.1. Direct Techniques: *Focus Group*
 - 8.3.2. Anthropological Techniques
 - 8.3.3. Indirect Techniques
 - 8.3.4. The Two Face Mirror and the Delphi Method
- 8.4. Market Segmentation
 - 8.4.1. Market Segmentation Concept
 - 8.4.2. Utility and Segmentation Requirements
 - 8.4.3. Market Typologies
 - 8.4.4. Concept and Analysis of the Demand
 - 8.4.5. Segmentation and Criteria
 - 8.4.6. Defining the Target Audience
- 8.5. Research Project Management
 - 8.5.1. Information Analysis Tools
 - 8.5.2. Developing an Expectation Management Plan
 - 8.5.3. Assessing the Feasibility of Projects
- 8.6. International Market Research
 - 8.6.1. Introduction to International Market Research
 - 8.6.2. International Market Research Process
 - 8.6.3. The Importance of Secondary Sources in International Research
- 8.7. Feasibility Studies
 - 8.7.1. Obtaining Information on Purchasing Behavior and Motives
 - 8.7.2. Analysis and Evaluation of the Competitive Offer
 - 8.7.3. Market Structure and Potential
 - 8.7.4. Purchase Intention
 - 8.7.5. Feasibility Results
- 8.8. Advertising
 - 8.8.1. Marketing and the Impact on the Company
 - 8.8.2. Basic Variables of Marketing
 - 8.8.3. Marketing Plan
- 8.9. Development of the Marketing Plan
 - 8.9.1. Analysis and Diagnosis
 - 8.9.2. Strategic Decisions
 - 8.9.3. Operational Decisions

- 8.10. Promotion and Merchandising Strategies
 - 8.10.1. Advertising Management
 - 8.10.2. Communication and Media Plan
 - 8.10.3. Merchandising as a Marketing Technique
 - 8.10.4. *Visual Merchandising*
- 8.11. Media Planning
 - 8.11.1. Sources of Innovation
 - 8.11.2. Current Trends in Marketing
 - 8.11.3. Marketing Tools
 - 8.11.4. Marketing Strategy and Communication with Customers
- 8.12. Fundamentals of Commercial Management
 - 8.12.1. Internal and External Analysis. SWOT Analysis
 - 8.12.2. Sector and Competitive Analysis
 - 8.12.3. The Canvas Model
- 8.13. Commercial Negotiation
- 8.14. Decision-Making in Commercial Management
- 8.15. Sales Network Management
- 8.16. Implementation of the Commercial Function
- 8.17. *Key Account Management*
- 8.18. Financial and Budgetary Management

Module 9. Innovation and Project Management

- 9.1. Innovation
 - 9.1.1. Framework Concept of Innovation
 - 9.1.2. Types of Innovation
 - 9.1.3. Continuous and Discontinuous Innovation
 - 9.1.4. Training and Innovation
- 9.2. Innovation Strategy
 - 9.2.1. Innovation and Corporate Strategy
 - 9.2.2. Global Innovation Project: Design and Management
 - 9.2.3. Innovation Workshops



- 9.3. Creation of a Startup
 - 9.3.1. From the Idea to the Business Model
 - 9.3.2. Partners
 - 9.3.3. Legal Considerations
 - 9.3.4. Organization and Culture
 - 9.3.5. Venture Capital and Entrepreneurial Management
- 9.4. Business Model Design and Validation
 - 9.4.1. The Lean Start-Up Methodology
 - 9.4.2. Innovative Business Initiative: Stages
 - 9.4.3. Financing Arrangements
 - 9.4.4. Model Tools: Empathy Map, Canvas Model, and Metrics
 - 9.4.5. Growth and Loyalty
- 9.5. Project Management
 - 9.5.1. Innovation Opportunities
 - 9.5.2. Feasibility Study and Proposal Specification
 - 9.5.3. Project Definition and Design
 - 9.5.4. Project Implementation
 - 9.5.5. Project Closure
- 9.6. Project Change Management: Training Management
- 9.7. Project Communication Management
- 9.8. Traditional and Innovative Methodologies
- 9.9. Project Management for Startups
- 9.10. Project Risk Management Planning

Module 10. Executive Management

- 10.1. *General Management*
 - 10.1.1. The Concept of General Management
 - 10.1.2. The General Manager's Action
 - 10.1.3. The Chief Executive Officer and Their Functions
 - 10.1.4. Transforming the Work of Management

- 10.2. Executive Management
 - 10.2.1. Integrating Functional Strategies into the Global Business Strategies
 - 10.2.2. Executive Management and Process Development
 - 10.2.3. Management Policy and Processes
 - 10.2.4. Society and Enterprise
 - 10.2.5. *Knowledge Management.*
- 10.3. People in Organizations
 - 10.3.1. Quality of Work Life and Psychological Well-Being
 - 10.3.2. Work Teams and Meeting Management
 - 10.3.3. Coaching and Team Management
 - 10.3.4. Managing Equality and Diversity
- 10.4. Public Speaking and Spokesperson Education
 - 10.4.1. Interpersonal Communication
 - 10.4.2. Communication Skills and Influence
 - 10.4.3. Communication Barriers
- 10.5. Personal and Organizational Communication
 - 10.5.1. Communication and Objectives
 - 10.5.2. Applying Communication Skills
 - 10.5.3. Communication in Organizations
 - 10.5.4. Personal and Organizational Communication Tools
 - 10.5.5. Development of a Corporate Communication Plan
 - 10.5.6. Communication Department within the Organization
 - 10.5.7. Advantages of Internal Communication
 - 10.5.8. External Communication Strategies
 - 10.5.9. Corporate Communication 2.0
 - 10.5.10. Crisis Communication Management
- 10.6. Management and Leadership Development
 - 10.6.1. Concept of Management Development
 - 10.6.2. Concept of Leadership
 - 10.6.3. Leadership Theories
 - 10.6.4. Leadership Styles
 - 10.6.5. Intelligence in Leadership
 - 10.6.6. The Challenges of Today's Leader

- 10.7. Leadership 2.0
 - 10.7.1. Leadership and Leadership Styles
 - 10.7.2. Motivation
 - 10.7.3. Emotional Intelligence
 - 10.7.4. Skills and Abilities of the Leader 2.0
 - 10.7.5. Efficient Meetings
- 10.8. Analyzing and Solving Cases/Problems
 - 10.8.1. Problem Solving Methodology
 - 10.8.2. Case Method
 - 10.8.3. Positioning and Decision Making
- 10.9. Negotiation and Conflict Resolution
 - 10.9.1. Effective Negotiation Techniques
 - 10.9.2. Interpersonal Conflicts
 - 10.9.3. Intercultural Negotiation
- 10.10. Time Management
 - 10.10.1. Planning, Organization and Control
 - 10.10.2. The Methodology of Time Management
 - 10.10.3. Action Plans
 - 10.10.4. Tools for Efficient Time Management

Module 11. Fundamentals of Artificial Intelligence

- 11.1. History of Artificial Intelligence
 - 11.1.1. When Do We Start Talking About Artificial Intelligence?
 - 11.1.2. References in Film
 - 11.1.3. Importance of Artificial Intelligence
 - 11.1.4. Technologies that Enable and Support Artificial Intelligence
- 11.2. Artificial Intelligence in Games
 - 11.2.1. Game Theory
 - 11.2.2. Minimax and Alpha-Beta Pruning
 - 11.2.3. Simulation: Monte Carlo

- 11.3. Neural Networks
 - 11.3.1. Biological Foundations
 - 11.3.2. Computational Model
 - 11.3.3. Supervised and Unsupervised Neural Networks
 - 11.3.4. Simple Perceptron
 - 11.3.5. Multilayer Perceptron
- 11.4. Genetic Algorithms
 - 11.4.1. History
 - 11.4.2. Biological Basis
 - 11.4.3. Problem Encoding
 - 11.4.4. Generation of the Initial Population
 - 11.4.5. Main Algorithm and Genetic Operators
 - 11.4.6. Evaluation of Individuals: *Fitness*
- 11.5. Thesauri, Vocabularies, Taxonomies
 - 11.5.1. Vocabularies
 - 11.5.2. Taxonomies
 - 11.5.3. Thesauri
 - 11.5.4. Ontologies
 - 11.5.5. Knowledge Representation: Semantic Web
- 11.6. Semantic Web
 - 11.6.1. Specifications: RDF, RDFS and OWL
 - 11.6.2. Inference/ Reasoning
 - 11.6.3. *Linked Data*
- 11.7. Expert Systems and DSS
 - 11.7.1. Expert Systems
 - 11.7.2. Decision Support Systems
- 11.8. Chatbots and Virtual Assistants
 - 11.8.1. Types of Assistants: Voice and Text Assistants
 - 11.8.2. Fundamental Parts for the Development of an Assistant: Intents, Entities and Dialog Flow
 - 11.8.3. Integrations: Web, Slack, WhatsApp, Facebook
 - 11.8.4. Assistant Development Tools: Dialog Flow, Watson Assistant
- 11.9. AI Implementation Strategy

- 11.10. Future of Artificial Intelligence
 - 11.10.1. Understand How to Detect Emotions Using Algorithms
 - 11.10.2. Creating a Personality: Language, Expressions and Content
 - 11.10.3. Trends of Artificial Intelligence
 - 11.10.4. Reflections

Module 12. Types and Life Cycle of Data

- 12.1. Statistics
 - 12.1.1. Statistics: Descriptive Statistics, Inferential Statistics
 - 12.1.2. Population, Sample, Individual
 - 12.1.3. Variables: Definition, Measurement Scales
- 12.2. Types of Statistical Data
 - 12.2.1. By Type
 - 12.2.1.1. Quantitative: Continuous Data and Discrete Data
 - 12.2.1.2. Qualitative: Binomial Data, Nominal Data and Ordinal Data
 - 12.2.2. By Form
 - 12.2.2.1. Numerical
 - 12.2.2.2. Text
 - 12.2.2.3. Logical
 - 12.2.3. By Source
 - 12.2.3.1. Primary
 - 12.2.3.2. Secondary
- 12.3. Data Lifecycle
 - 12.3.1. Lifecycle Stages
 - 12.3.2. Lifecycle Milestones
 - 12.3.3. FAIR Principles
- 12.4. Initial Stages of the Cycle
 - 12.4.1. Goal Definition
 - 12.4.2. Determination of Required Resources
 - 12.4.3. Gantt Chart
 - 12.4.4. Data Structure
- 12.5. Data Collection
 - 12.5.1. Data Collection Methodology
 - 12.5.2. Data Collection Tools
 - 12.5.3. Data Collection Channels

- 12.6. Data Cleaning
 - 12.6.1. Data Cleaning Phases
 - 12.6.2. Data Quality
 - 12.6.3. Data Manipulation (using R)
- 12.7. Data Analysis, Interpretation and Evaluation of Results
 - 12.7.1. Statistical Measures
 - 12.7.2. Relationship Indices
 - 12.7.3. Data Mining
- 12.8. Datawarehouse
 - 12.8.1. Components of a Data Warehouse
 - 12.8.2. Design
 - 12.8.3. Aspects to Consider
- 12.9. Data Availability
 - 12.9.1. Access
 - 12.9.2. Usefulness
 - 12.9.3. Safety
- 12.10. Regulatory Aspects
 - 12.10.1. Data Protection Law
 - 12.10.2. Best Practices
 - 12.10.3. Other Regulatory Aspects

Module 13. Data in Artificial Intelligence

- 13.1. Data Science
 - 13.1.1. Data Science
 - 13.1.2. Advanced Tools for Data Scientists
- 13.2. Data, Information and Knowledge
 - 13.2.1. Data, Information and Knowledge
 - 13.2.2. Types of Data
 - 13.2.3. Data Sources
- 13.3. From Data to Information
 - 13.3.1. Data Analysis
 - 13.3.2. Types of Analysis
 - 13.3.3. Extraction of Information from a Dataset

- 13.4. Extraction of Information Through Visualization
 - 13.4.1. Visualization as an Analysis Tool
 - 13.4.2. Visualization Methods
 - 13.4.3. Visualization of a Data Set
- 13.5. Data Quality
 - 13.5.1. Quality Data
 - 13.5.2. Data Cleaning
 - 13.5.3. Basic Data Pre-Processing
- 13.6. *Dataset*
 - 13.6.1. Dataset Enrichment
 - 13.6.2. The Curse of Dimensionality
 - 13.6.3. Modification of Our Data Set
- 13.7. Unbalance
 - 13.7.1. Classes of Unbalance
 - 13.7.2. Unbalance Mitigation Techniques
 - 13.7.3. Balancing a Dataset
- 13.8. Unsupervised Models
 - 13.8.1. Unsupervised Model
 - 13.8.2. Methods
 - 13.8.3. Classification with Unsupervised Models
- 13.9. Supervised Models
 - 13.9.1. Supervised Model
 - 13.9.2. Methods
 - 13.9.3. Classification with Supervised Models
- 13.10. Tools and Good Practices
 - 13.10.1. Good Practices for Data Scientists
 - 13.10.2. The Best Model
 - 13.10.3. Useful Tools

Module 14. Data Mining, Selection, Pre-Processing and Transformation

- 14.1. Statistical Inference
 - 14.1.1. Descriptive Statistics vs. Statistical Inference
 - 14.1.2. Parametric Procedures
 - 14.1.3. Non-Parametric Procedures

- 14.2. Exploratory Analysis
 - 14.2.1. Descriptive Analysis
 - 14.2.2. Visualization
 - 14.2.3. Data Preparation
- 14.3. Data Preparation
 - 14.3.1. Integration and Data Cleaning
 - 14.3.2. Normalization of Data
 - 14.3.3. Transforming Attributes
- 14.4. Missing Values
 - 14.4.1. Treatment of Missing Values
 - 14.4.2. Maximum Likelihood Imputation Methods
 - 14.4.3. Missing Value Imputation Using Machine Learning
- 14.5. Noise in the Data
 - 14.5.1. Noise Classes and Attributes
 - 14.5.2. Noise Filtering
 - 14.5.3. The Effect of Noise
- 14.6. The Curse of Dimensionality
 - 14.6.1. *Oversampling*
 - 14.6.2. *Undersampling*
 - 14.6.3. Multidimensional Data Reduction
- 14.7. From Continuous to Discrete Attributes
 - 14.7.1. Continuous Data vs. Discrete Data
 - 14.7.2. Discretization Process
- 14.8. The Data
 - 14.8.1. Data Selection
 - 14.8.2. Prospects and Selection Criteria
 - 14.8.3. Selection Methods
- 14.9. Instance Selection
 - 14.9.1. Methods for Instance Selection
 - 14.9.2. Prototype Selection
 - 14.9.3. Advanced Methods for Instance Selection
- 14.10. Data Pre-Processing in Big Data Environments

Module 15. Algorithm and Complexity in Artificial Intelligence

- 15.1. Introduction to Algorithm Design Strategies
 - 15.1.1. Recursion
 - 15.1.2. Divide and Conquer
 - 15.1.3. Other Strategies
- 15.2. Efficiency and Analysis of Algorithms
 - 15.2.1. Efficiency Measures
 - 15.2.2. Measuring the Size of the Input
 - 15.2.3. Measuring Execution Time
 - 15.2.4. Worst, Best and Average Case
 - 15.2.5. Asymptotic Notation
 - 15.2.6. Criteria for Mathematical Analysis of Non-Recursive Algorithms
 - 15.2.7. Mathematical Analysis of Recursive Algorithms
 - 15.2.8. Empirical Analysis of Algorithms
- 15.3. Sorting Algorithms
 - 15.3.1. Concept of Sorting
 - 15.3.2. Bubble Sorting
 - 15.3.3. Sorting by Selection
 - 15.3.4. Sorting by Insertion
 - 15.3.5. Sorting by Merge (Merge_Sort)
 - 15.3.6. Sorting Quickly (Quick_Sort)
- 15.4. Algorithms with Trees
 - 15.4.1. Tree Concept
 - 15.4.2. Binary Trees
 - 15.4.3. Tree Paths
 - 15.4.4. Representing Expressions
 - 15.4.5. Ordered Binary Trees
 - 15.4.6. Balanced Binary Trees
- 15.5. Algorithms Using Heaps
 - 15.5.1. Heaps
 - 15.5.2. The Heapsort Algorithm
 - 15.5.3. Priority Queues

- 15.6. Graph Algorithms
 - 15.6.1. Representation
 - 15.6.2. Traversal in Width
 - 15.6.3. Depth Travel
 - 15.6.4. Topological Sorting
- 15.7. Greedy Algorithms
 - 15.7.1. Greedy Strategy
 - 15.7.2. Elements of the Greedy Strategy
 - 15.7.3. Currency Exchange
 - 15.7.4. Traveler's Problem
 - 15.7.5. Backpack Problem
- 15.8. Minimal Path Finding
 - 15.8.1. The Minimum Path Problem
 - 15.8.2. Negative Arcs and Cycles
 - 15.8.3. Dijkstra's Algorithm
- 15.9. Greedy Algorithms on Graphs
 - 15.9.1. Minimum Spanning Tree
 - 15.9.2. Prim's Algorithm
 - 15.9.3. Kruskal's Algorithm
 - 15.9.4. Complexity Analysis
- 15.10. *Backtracking*
 - 15.10.1. Backtracking
 - 15.10.2. Alternative Techniques

Module 16. Intelligent Systems

- 16.1. Agent Theory
 - 16.1.1. Concept History
 - 16.1.2. Agent Definition
 - 16.1.3. Agents in Artificial Intelligence
 - 16.1.4. Agents in Software Engineering

- 16.2. Agent Architectures
 - 16.2.1. The Reasoning Process of an Agent
 - 16.2.2. Reactive Agents
 - 16.2.3. Deductive Agents
 - 16.2.4. Hybrid Agents
 - 16.2.5. Comparison
- 16.3. Information and Knowledge
 - 16.3.1. Difference between Data, Information and Knowledge
 - 16.3.2. Data Quality Assessment
 - 16.3.3. Data Collection Methods
 - 16.3.4. Information Acquisition Methods
 - 16.3.5. Knowledge Acquisition Methods
- 16.4. Knowledge Representation
 - 16.4.1. The Importance of Knowledge Representation
 - 16.4.2. Definition of Knowledge Representation According to Roles
 - 16.4.3. Knowledge Representation Features
- 16.5. Ontologies
 - 16.5.1. Introduction to Metadata
 - 16.5.2. Philosophical Concept of Ontology
 - 16.5.3. Computing Concept of Ontology
 - 16.5.4. Domain Ontologies and Higher-Level Ontologies
 - 16.5.5. How to Build an Ontology
- 16.6. Ontology Languages and Ontology Creation Software
 - 16.6.1. Triple RDF, Turtle and N
 - 16.6.2. RDF Schema
 - 16.6.3. OWL
 - 16.6.4. SPARQL
 - 16.6.5. Introduction to Ontology Creation Tools
 - 16.6.6. Installing and Using Protégé
- 16.7. Semantic Web
 - 16.7.1. Current and Future Status of the Semantic Web
 - 16.7.2. Semantic Web Applications

- 16.8. Other Knowledge Representation Models
 - 16.8.1. Vocabularies
 - 16.8.2. Global Vision
 - 16.8.3. Taxonomies
 - 16.8.4. Thesauri
 - 16.8.5. Folksonomy
 - 16.8.6. Comparison
 - 16.8.7. Mind Maps
 - 16.9. Knowledge Representation Assessment and Integration
 - 16.9.1. Zero-Order Logic
 - 16.9.2. First-Order Logic
 - 16.9.3. Descriptive Logic
 - 16.9.4. Relationship between Different Types of Logic
 - 16.9.5. Prolog: Programming Based on First-Order Logic
 - 16.10. Semantic Reasoners, Knowledge-Based Systems and Expert Systems
 - 16.10.1. Concept of Reasoner
 - 16.10.2. Reasoner Applications
 - 16.10.3. Knowledge-Based Systems
 - 16.10.4. MYCIN: History of Expert Systems
 - 16.10.5. Expert Systems Elements and Architecture
 - 16.10.6. Creating Expert Systems
- Module 17. Machine Learning and Data Mining**
- 17.1. Introduction to Knowledge Discovery Processes and Basic Concepts of Machine Learning
 - 17.1.1. Key Concepts of Knowledge Discovery Processes
 - 17.1.2. Historical Perspective of Knowledge Discovery Processes
 - 17.1.3. Stages of the Knowledge Discovery Processes
 - 17.1.4. Techniques Used in Knowledge Discovery Processes
 - 17.1.5. Characteristics of Good Machine Learning Models
 - 17.1.6. Types of Machine Learning Information
 - 17.1.7. Basic Learning Concepts
 - 17.1.8. Basic Concepts of Unsupervised Learning
 - 17.2. Data Exploration and Pre-Processing
 - 17.2.1. Data Processing
 - 17.2.2. Data Processing in the Data Analysis Flow
 - 17.2.3. Types of Data
 - 17.2.4. Data Transformations
 - 17.2.5. Visualization and Exploration of Continuous Variables
 - 17.2.6. Visualization and Exploration of Categorical Variables
 - 17.2.7. Correlation Measures
 - 17.2.8. Most Common Graphic Representations
 - 17.2.9. Introduction to Multivariate Analysis and Dimensionality Reduction
 - 17.3. Decision Trees
 - 17.3.1. ID Algorithm
 - 17.3.2. Algorithm C
 - 17.3.3. Overtraining and Pruning
 - 17.3.4. Result Analysis
 - 17.4. Evaluation of Classifiers
 - 17.4.1. Confusion Matrices
 - 17.4.2. Numerical Evaluation Matrices
 - 17.4.3. Kappa Statistic
 - 17.4.4. ROC Curves
 - 17.5. Classification Rules
 - 17.5.1. Rule Evaluation Measures
 - 17.5.2. Introduction to Graphic Representation
 - 17.5.3. Sequential Overlay Algorithm
 - 17.6. Neural Networks
 - 17.6.1. Basic Concepts
 - 17.6.2. Simple Neural Networks
 - 17.6.3. Backpropagation Algorithm
 - 17.6.4. Introduction to Recurrent Neural Networks
 - 17.7. Bayesian Methods
 - 17.7.1. Basic Probability Concepts
 - 17.7.2. Bayes' Theorem
 - 17.7.3. Naive Bayes
 - 17.7.4. Introduction to Bayesian Networks

- 17.8. Regression and Continuous Response Models
 - 17.8.1. Simple Linear Regression
 - 17.8.2. Multiple Linear Regression
 - 17.8.3. Logistic Regression
 - 17.8.4. Regression Trees
 - 17.8.5. Introduction to Support Vector Machines (SVM)
 - 17.8.6. Goodness-of-Fit Measures
- 17.9. *Clustering*
 - 17.9.1. Basic Concepts
 - 17.9.2. Hierarchical Clustering
 - 17.9.3. Probabilistic Methods
 - 17.9.4. EM Algorithm
 - 17.9.5. B-Cubed Method
 - 17.9.6. Implicit Methods
- 17.10. Text Mining and Natural Language Processing (NLP)
 - 17.10.1. Basic Concepts
 - 17.10.2. Corpus Creation
 - 17.10.3. Descriptive Analysis
 - 17.10.4. Introduction to Feelings Analysis

Module 18. Neural Networks, the Basis of *Deep Learning*

- 18.1. Deep Learning
 - 18.1.1. Types of Deep Learning
 - 18.1.2. Applications of Deep Learning
 - 18.1.3. Advantages and Disadvantages of Deep Learning
- 18.2. Operations
 - 18.2.1. Sum
 - 18.2.2. Product
 - 18.2.3. Transfer
- 18.3. Layers
 - 18.3.1. Input Layer
 - 18.3.2. Hidden Layer
 - 18.3.3. Output Layer

- 18.4. Layer Bonding and Operations
 - 18.4.1. Architecture Design
 - 18.4.2. Connection between Layers
 - 18.4.3. Forward Propagation
- 18.5. Construction of the First Neural Network
 - 18.5.1. Network Design
 - 18.5.2. Establish the Weights
 - 18.5.3. Network Training
- 18.6. Trainer and Optimizer
 - 18.6.1. Optimizer Selection
 - 18.6.2. Establishment of a Loss Function
 - 18.6.3. Establishing a Metric
- 18.7. Application of the Principles of Neural Networks
 - 18.7.1. Activation Functions
 - 18.7.2. Backward Propagation
 - 18.7.3. Parameter Adjustment
- 18.8. From Biological to Artificial Neurons
 - 18.8.1. Functioning of a Biological Neuron
 - 18.8.2. Transfer of Knowledge to Artificial Neurons
 - 18.8.3. Establish Relations Between the Two
- 18.9. Implementation of MLP (Multilayer Perceptron) with Keras
 - 18.9.1. Definition of the Network Structure
 - 18.9.2. Model Compilation
 - 18.9.3. Model Training
- 18.10. Fine Tuning Hyperparameters of Neural Networks
 - 18.10.1. Selection of the Activation Function
 - 18.10.2. Set the Learning Rate
 - 18.10.3. Adjustment of Weights

Module 19. Deep Neural Networks Training

- 19.1. Gradient Problems
 - 19.1.1. Gradient Optimization Techniques
 - 19.1.2. Stochastic Gradients
 - 19.1.3. Weight Initialization Techniques
- 19.2. Reuse of Pre-Trained Layers
 - 19.2.1. Transfer Learning Training
 - 19.2.2. Feature Extraction
 - 19.2.3. Deep Learning
- 19.3. Optimizers
 - 19.3.1. Stochastic Gradient Descent Optimizers
 - 19.3.2. Optimizers Adam and RMSprop
 - 19.3.3. Moment Optimizers
- 19.4. Learning Rate Programming
 - 19.4.1. Automatic Learning Rate Control
 - 19.4.2. Learning Cycles
 - 19.4.3. Smoothing Terms
- 19.5. Overfitting
 - 19.5.1. Cross-Validation
 - 19.5.2. Regularization
 - 19.5.3. Evaluation Metrics
- 19.6. Practical Guidelines
 - 19.6.1. Model Design
 - 19.6.2. Selection of Metrics and Evaluation Parameters
 - 19.6.3. Hypothesis Testing
- 19.7. *Transfer Learning*
 - 19.7.1. Transfer Learning Training
 - 19.7.2. Feature Extraction
 - 19.7.3. Deep Learning
- 19.8. *Data Augmentation*
 - 19.8.1. Image Transformations
 - 19.8.2. Synthetic Data Generation
 - 19.8.3. Text Transformation

- 19.9. Practical Application of Transfer Learning
 - 19.9.1. Transfer Learning Training
 - 19.9.2. Feature Extraction
 - 19.9.3. Deep Learning
- 19.10. Regularization
 - 19.10.1. L and L
 - 19.10.2. Regularization by Maximum Entropy
 - 19.10.3. *Dropout*

Module 20. Model Customization and Training with TensorFlow

- 20.1. TensorFlow
 - 20.1.1. Using the TensorFlow Library
 - 20.1.2. Model Education with TensorFlow
 - 20.1.3. Operations with Graphs in TensorFlow
- 20.2. TensorFlow and NumPy
 - 20.2.1. NumPy Computational Environment for TensorFlow
 - 20.2.2. Using NumPy Arrays with TensorFlow
 - 20.2.3. NumPy Operations for TensorFlow Graphs
- 20.3. Model Customization and Training Algorithms
 - 20.3.1. Building Custom Models with TensorFlow
 - 20.3.2. Management of Training Parameters
 - 20.3.3. Use of Optimization Techniques for Training
- 20.4. TensorFlow Functions and Graphs
 - 20.4.1. Functions with TensorFlow
 - 20.4.2. Use of Graphs for Model Training
 - 20.4.3. Optimization of Graphs with TensorFlow Operations
- 20.5. Data Loading and Pre-Processing with TensorFlow
 - 20.5.1. Loading Datasets with TensorFlow
 - 20.5.2. Data Pre-Processing with TensorFlow
 - 20.5.3. Using TensorFlow Tools for Data Manipulation
- 20.6. The tf.data API
 - 20.6.1. Using the tf.data API for Data Processing
 - 20.6.2. Construction of Data Streams with tf.data
 - 20.6.3. Using the tf.data API for Model Training

- 20.7. The TFRecord Format
 - 20.7.1. Using the TFRecord API for Data Serialization
 - 20.7.2. Loading TFRecord Files with TensorFlow
 - 20.7.3. Using TFRecord Files for Model Training
- 20.8. Keras Pre-Processing Layers
 - 20.8.1. Using the Keras Pre-Processing API
 - 20.8.2. Construction of Preprocessing Pipelines with Keras
 - 20.8.3. Using the Keras Pre-Processing API for Model Training
- 20.9. The TensorFlow Datasets Project
 - 20.9.1. Using TensorFlow Datasets for Data Loading
 - 20.9.2. Data Pre-Processing with TensorFlow Datasets
 - 20.9.3. Using TensorFlow Datasets for Model Training
- 20.10. Building a Deep Learning App with TensorFlow
 - 20.10.1. Practical Application
 - 20.10.2. Building a Deep Learning App with TensorFlow
 - 20.10.3. Training a Model with TensorFlow
 - 20.10.4. Using the Application for the Prediction of Results

Module 21. Deep Computer Vision with Convolutional Neural Networks

- 21.1. The Visual Cortex Architecture
 - 21.1.1. Functions of the Visual Cortex
 - 21.1.2. Theories of Computational Vision
 - 21.1.3. Models of Image Processing
- 21.2. Convolutional Layers
 - 21.2.1. Reuse of Weights in Convolution
 - 21.2.2. Convolution D
 - 21.2.3. Activation Functions
- 21.3. Grouping Layers and Implementation of Grouping Layers with Keras
 - 21.3.1. Pooling and Striding
 - 21.3.2. *Flattening*
 - 21.3.3. Types of Pooling

- 21.4. CNN Architecture
 - 21.4.1. VGG Architecture
 - 21.4.2. AlexNet Architecture
 - 21.4.3. ResNet Architecture
- 21.5. Implementing a CNN ResNet - Using Keras
 - 21.5.1. Weight Initialization
 - 21.5.2. Input Layer Definition
 - 21.5.3. Output Definition
- 21.6. Use of Pre-Trained Keras Models
 - 21.6.1. Characteristics of Pre-Trained Models
 - 21.6.2. Uses of Pre-Trained Models
 - 21.6.3. Advantages of Pre-Trained Models
- 21.7. Pre-Trained Models for Transfer Learning
 - 21.7.1. Transfer Learning
 - 21.7.2. Transfer Learning Process
 - 21.7.3. Advantages of Transfer Learning
- 21.8. Deep Computer Vision Classification and Localization
 - 21.8.1. Image Classification
 - 21.8.2. Localization of Objects in Images
 - 21.8.3. Object Detection
- 21.9. Object Detection and Object Tracking
 - 21.9.1. Object Detection Methods
 - 21.9.2. Object Tracking Algorithms
 - 21.9.3. Tracking and Localization Techniques
- 21.10. Semantic Segmentation
 - 21.10.1. Deep Learning for Semantic Segmentation
 - 21.10.2. Edge Detection
 - 21.10.3. Rule-Based Segmentation Methods

Module 22. Natural Language Processing (NLP) with Recurrent Neural Networks (RNN) and Attention

- 22.1. Text Generation Using RNN
 - 22.1.1. Training an RNN for Text Generation
 - 22.1.2. Natural Language Generation with RNN
 - 22.1.3. Text Generation Applications with RNN
- 22.2. Training Data Set Creation
 - 22.2.1. Preparation of the Data for Training an RNN
 - 22.2.2. Storage of the Training Dataset
 - 22.2.3. Data Cleaning and Transformation
 - 22.2.4. Sentiment Analysis
- 22.3. Classification of Opinions with RNN
 - 22.3.1. Detection of Themes in Comments
 - 22.3.2. Sentiment Analysis with Deep Learning Algorithms
- 22.4. Encoder-Decoder Network for Neural Machine Translation
 - 22.4.1. Training an RNN for Machine Translation
 - 22.4.2. Use of an Encoder-Decoder Network for Machine Translation
 - 22.4.3. Improving the Accuracy of Machine Translation with RNNs
- 22.5. Attention Mechanisms
 - 22.5.1. Application of Attention Mechanisms in RNN
 - 22.5.2. Use of Attention Mechanisms to Improve the Accuracy of the Models
 - 22.5.3. Advantages of Attention Mechanisms in Neural Networks
- 22.6. Transformer Models
 - 22.6.1. Using Transformers Models for Natural Language Processing
 - 22.6.2. Application of Transformers Models for Vision
 - 22.6.3. Advantages of Transformers Models
- 22.7. Transformers for Vision
 - 22.7.1. Use of Transformers Models for Vision
 - 22.7.2. Image Data Pre-Processing
 - 22.7.3. Training a Transformers Model for Vision

- 22.8. Hugging Face's Transformers Library
 - 22.8.1. Using Hugging Face's Transformers Library
 - 22.8.2. Hugging Face's Transformers Library Application
 - 22.8.3. Advantages of Hugging Face's Transformers Library
- 22.9. Other Transformers Libraries. Comparison
 - 22.9.1. Comparison Between Different Transformers Libraries
 - 22.9.2. Use of the Other Transformers Libraries
 - 22.9.3. Advantages of the Other Transformers Libraries
- 22.10. Development of an NLP Application with RNN and Attention. Practical Application
 - 22.10.1. Development of a Natural Language Processing Application with RNN and Attention
 - 22.10.2. Use of RNN, Attention Mechanisms and Transformers Models in the Application
 - 22.10.3. Evaluation of the Practical Application

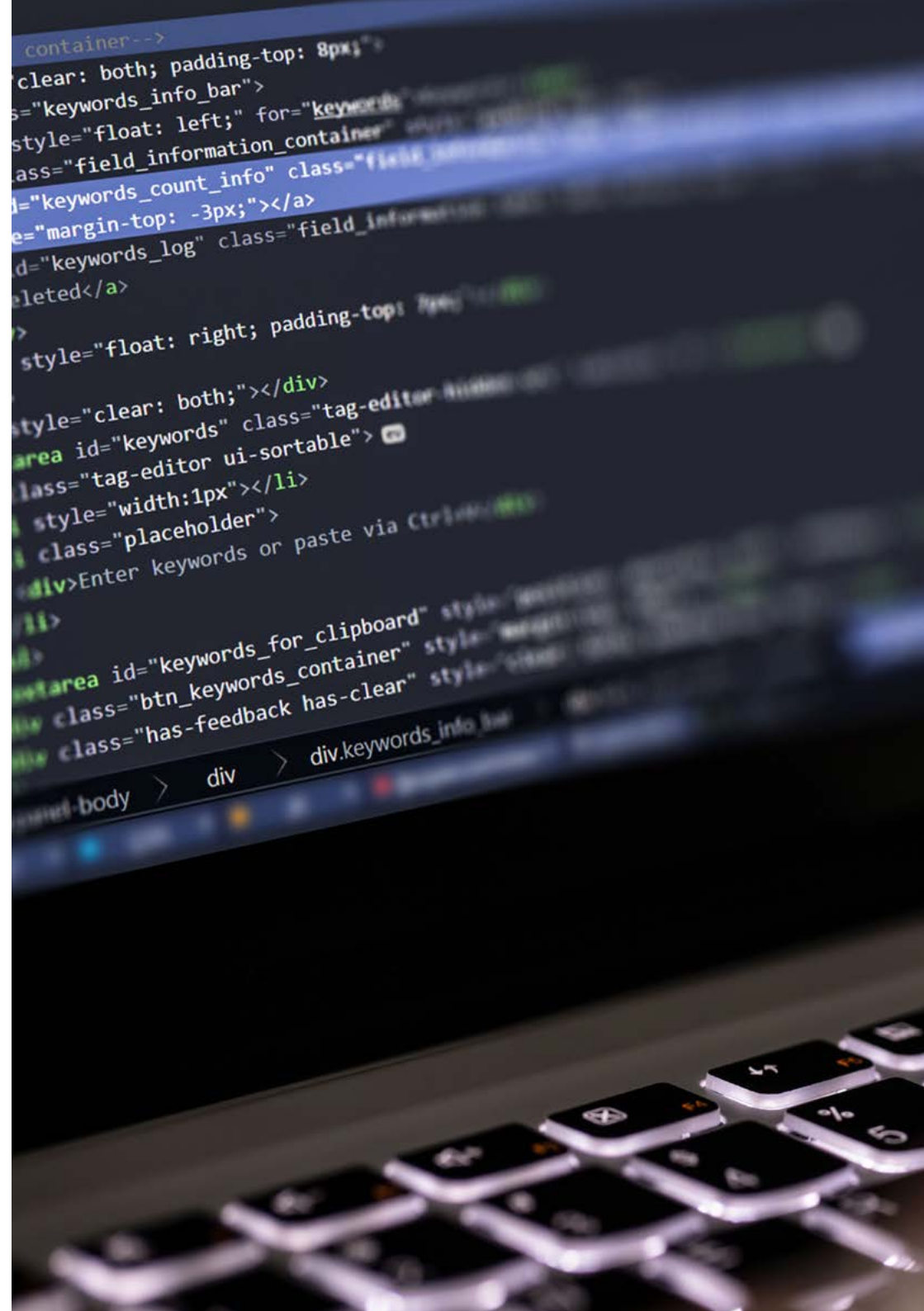
Module 23. Autoencoders, GANs and Diffusion Models

- 23.1. Representation of Efficient Data
 - 23.1.1. Dimensionality Reduction
 - 23.1.2. Deep Learning
 - 23.1.3. Compact Representations
- 23.2. PCA Realization with an Incomplete Linear Automatic Encoder
 - 23.2.1. Training Process
 - 23.2.2. Implementation in Python
 - 23.2.3. Use of Test Data
- 23.3. Stacked Automatic Encoders
 - 23.3.1. Deep Neural Networks
 - 23.3.2. Construction of Coding Architectures
 - 23.3.3. Use of Regularization
- 23.4. Convolutional Autoencoders
 - 23.4.1. Design of Convolutional Models
 - 23.4.2. Convolutional Model Training
 - 23.4.3. Results Evaluation

- 23.5. Noise Suppression of Automatic Encoders
 - 23.5.1. Filter Application
 - 23.5.2. Design of Coding Models
 - 23.5.3. Use of Regularization Techniques
- 23.6. Sparse Automatic Encoders
 - 23.6.1. Increasing Coding Efficiency
 - 23.6.2. Minimizing the Number of Parameters
 - 23.6.3. Using Regularization Techniques
- 23.7. Variational Automatic Encoders
 - 23.7.1. Use of Variational Optimization
 - 23.7.2. Unsupervised Deep Learning
 - 23.7.3. Deep Latent Representations
- 23.8. Generation of Fashion MNIST Images
 - 23.8.1. Pattern Recognition
 - 23.8.2. Image Generation
 - 23.8.3. Deep Neural Networks Training
- 23.9. Generative Adversarial Networks and Diffusion Models
 - 23.9.1. Content Generation from Images
 - 23.9.2. Modeling of Data Distributions
 - 23.9.3. Use of Adversarial Networks
- 23.10. Implementation of the Models
 - 23.10.1. Practical Application
 - 23.10.2. Implementation of the Models
 - 23.10.3. Use of Real Data
 - 23.10.4. Results Evaluation

Module 24. Bioinspired Computing

- 24.1. Introduction to Bioinspired Computing
 - 24.1.1. Introduction to Bioinspired Computing
- 24.2. Social Adaptation Algorithms
 - 24.2.1. Bioinspired Computing Based on Ant Colony
 - 24.2.2. Variants of Ant Colony Algorithms
 - 24.2.3. Particle Cloud Computing



- 24.3. Genetic Algorithms
 - 24.3.1. General Structure
 - 24.3.2. Implementations of the Major Operators
- 24.4. Space Exploration-Exploitation Strategies for Genetic Algorithms
 - 24.4.1. CHC Algorithm
 - 24.4.2. Multimodal Problems
- 24.5. Evolutionary Computing Models (I)
 - 24.5.1. Evolutionary Strategies
 - 24.5.2. Evolutionary Programming
 - 24.5.3. Algorithms Based on Differential Evolution
- 24.6. Evolutionary Computation Models (II)
 - 24.6.1. Evolutionary Models Based on Estimation of Distributions (EDA)
 - 24.6.2. Genetic Programming
- 24.7. Evolutionary Programming Applied to Learning Problems
 - 24.7.1. Rules-Based Learning
 - 24.7.2. Evolutionary Methods in Instance Selection Problems
- 24.8. Multi-Objective Problems
 - 24.8.1. Concept of Dominance
 - 24.8.2. Application of Evolutionary Algorithms to Multi-Objective Problems
- 24.9. Neural Networks (I)
 - 24.9.1. Introduction to Neural Networks
 - 24.9.2. Practical Example with Neural Networks
- 24.10. Neural Networks (II)
 - 24.10.1. Use Cases of Neural Networks in Medical Research
 - 24.10.2. Use Cases of Neural Networks in Economics
 - 24.10.3. Use Cases of Neural Networks in Computer Vision

Module 25. Artificial Intelligence: Strategies and Applications

- 25.1. Financial Services
 - 25.1.1. The Implications of Artificial Intelligence (AI) in Financial Services. Opportunities and Challenges
 - 25.1.2. Use Cases
 - 25.1.3. Potential Risks Related to the Use of AI
 - 25.1.4. Potential Future Developments/Uses of AI

- 25.2. Implications of Artificial Intelligence in Healthcare Service
 - 25.2.1. Implications of AI in the Healthcare Sector. Opportunities and Challenges
 - 25.2.2. Use Cases
- 25.3. Risks Related to the Use of AI in Healthcare Service
 - 25.3.1. Potential Risks Related to the Use of AI
 - 25.3.2. Potential Future Developments/Uses of AI
- 25.4. Retail
 - 25.4.1. Implications of AI in Retail. Opportunities and Challenges
 - 25.4.2. Use Cases
 - 25.4.3. Potential Risks Related to the Use of AI
 - 25.4.4. Potential Future Developments/Uses of AI
- 25.5. Industry
 - 25.5.1. Implications of AI in Industry. Opportunities and Challenges
 - 25.5.2. Use Cases
- 25.6. Potential Risks Related to the Use of AI in Industry
 - 25.6.1. Use Cases
 - 25.6.2. Potential Risks Related to the Use of AI
 - 25.6.3. Potential Future Developments/Uses of AI
- 25.7. Public Administration
 - 25.7.1. AI Implications for Public Administration. Opportunities and Challenges
 - 25.7.2. Use Cases
 - 25.7.3. Potential Risks Related to the Use of AI
 - 25.7.4. Potential Future Developments/Uses of AI
- 25.8. Education
 - 25.8.1. AI Implications for Education. Opportunities and Challenges
 - 25.8.2. Use Cases
 - 25.8.3. Potential Risks Related to the Use of AI
 - 25.8.4. Potential Future Developments/Uses of AI
- 25.9. Forestry and Agriculture
 - 25.9.1. Implications of AI in Forestry and Agriculture. Opportunities and Challenges
 - 25.9.2. Use Cases
 - 25.9.3. Potential Risks Related to the Use of AI
 - 25.9.4. Potential Future Developments/Uses of AI

- 25.10. Human Resources
 - 25.10.1. Implications of AI in Human Resources. Opportunities and Challenges
 - 25.10.2. Use Cases
 - 25.10.3. Potential Risks Related to the Use of AI
 - 25.10.4. Potential Future Developments/Uses of AI

Module 26. Improving Software Development Productivity with Artificial Intelligence

- 26.1. Preparing a Suitable Development Environment
 - 26.1.1. Essential Tool Selection for AI Development
 - 26.1.2. Configuration of the Selected Tools
 - 26.1.3. Implementation of CI/CD Pipelines Adapted to AI Projects
 - 26.1.4. Efficient Management of Dependencies and Versions in Development Environments
- 26.2. Essential AI Extensions for *Visual Studio Code*
 - 26.2.1. Exploring and Selecting AI Extensions for *Visual Studio Code*
 - 26.2.2. Integrating Static and Dynamic Analysis Tools into the Integrated Development Environment (IDE)
 - 26.2.3. Automation of Repetitive Tasks with Specific Extensions
 - 26.2.4. Customization of the Development Environment to Improve Efficiency
- 26.3. No-Code Design of User Interfaces with AI Elements
 - 26.3.1. No-Code Design Principles and their Application to User Interfaces
 - 26.3.2. Incorporation of AI Elements in Visual Interface Design
 - 26.3.3. Tools and Platforms for the No-Code Creation of Intelligent Interfaces
 - 26.3.4. Evaluation and Continuous Improvement of No-Code Interfaces with AI
- 26.4. Code Optimization Using ChatGPT
 - 26.4.1. Duplicate Code Detection
 - 26.4.2. Refactor
 - 26.4.3. Create Readable Code
 - 26.4.4. Understanding What Code Does
 - 26.4.5. Improving Variable and Function Naming
 - 26.4.6. Creating Automatic Documentation

- 26.5. Repository Management with AI
 - 26.5.1. Automation of Version Control Processes with AI Techniques
 - 26.5.2. Conflict Detection and Automatic Resolution in Collaborative Environments
 - 26.5.3. Predictive Analysis of Changes and Trends in Code Repositories
 - 26.5.4. Improvements in the Organization and Categorization of Repositories using AI
- 26.6. Integration of AI in Database Management
 - 26.6.1. Optimization of Queries and Performance Using AI Techniques
 - 26.6.2. Predictive Analysis of Database Access Patterns
 - 26.6.3. Implementation of Recommender Systems to Optimize Database Structure
 - 26.6.4. Proactive Monitoring and Detection of Potential Database Problems
- 26.7. Fault Detection and Creation of Unit Tests with AI ChatGPT
 - 26.7.1. Automatic Generation of Test Cases using AI Techniques
 - 26.7.2. Early Detection of Vulnerabilities and Bugs using Static Analysis with AI
 - 26.7.3. Improving Test Coverage by Identifying Critical Areas by AI
- 26.8. Pair Programming with GitHub Copilot
 - 26.8.1. Integration and Effective Use of GitHub Copilot in Pair Programming Sessions
 - 26.8.2. Integration. Improvements in Communication and Collaboration among Developers with GitHub Copilot
 - 26.8.3. Integration. Strategies to Maximize the Use of GitHub Copilot-Generated Code Suggestions
 - 26.8.4. Integration. Case Studies and Best Practices in AI-Assisted Pair Programming
- 26.9. Automatic Translation between Programming Languages Using ChatGPT
 - 26.9.1. Specific Machine Translation Tools and Services for Programming Languages
 - 26.9.2. Adaptation of Machine Translation Algorithms to Development Contexts
 - 26.9.3. Improvement of Interoperability between Different Languages by Machine Translation
 - 26.9.4. Assessment and Mitigation of Potential Challenges and Limitations in Machine Translation
- 26.10. Recommended AI Tools to Improve Productivity
 - 26.10.1. Comparative Analysis of AI Tools for Software Development
 - 26.10.2. Integration of AI Tools in Workflows
 - 26.10.3. Automation of Routine Tasks with AI Tools
 - 26.10.4. Evaluation and Selection of Tools Based on Project Context and Requirements

Module 27. Software Architecture with Artificial Intelligence

- 27.1. Optimization and Performance Management in AI Tools with the Help of ChatGPT
 - 27.1.1. Performance Analysis and Profiling in AI Tools
 - 27.1.2. Algorithm Optimization Strategies and AI Models
 - 27.1.3. Implementation of Caching and Parallelization Techniques to Improve Performance
 - 27.1.4. Tools and Methodologies for Continuous Real-Time Performance Monitoring
- 27.2. Scalability in AI Applications Using ChatGPT
 - 27.2.1. Scalable Architectures Design for AI Applications
 - 27.2.2. Implementation of Partitioning and Load Sharing Techniques
 - 27.2.3. Workflow and Workload Management in Scalable Systems
 - 27.2.4. Strategies for Horizontal and Vertical Expansion in Variable Demand Environments
- 27.3. Maintainability of AI Applications Using ChatGPT
 - 27.3.1. Design Principles to Facilitate Maintainability in AI Projects
 - 27.3.2. Specific Documentation Strategies for AI Models and Algorithms
 - 27.3.3. Implementation of Unit and Integration Tests to Facilitate Maintainability
 - 27.3.4. Methods for Refactoring and Continuous Improvement in Systems with AI Components
- 27.4. Large-Scale System Design
 - 27.4.1. Architectural Principles for Large-Scale System Design
 - 27.4.2. Decomposition of Complex Systems into Microservices
 - 27.4.3. Implementation of Specific Design Patterns for Distributed Systems
 - 27.4.4. Strategies for Complexity Management in Large-Scale Architectures with AI Components
- 27.5. Large-Scale Data Warehousing for AI Tools
 - 27.5.1. Selection of Scalable Data Storage Technologies
 - 27.5.2. Design of Database Schemas for Efficient Handling of Large Data Volumes
 - 27.5.3. Partitioning and Replication Strategies in Massive Data Storage Environments
 - 27.5.4. Implementation of Data Management Systems to Ensure Integrity and Availability in AI Projects
- 27.6. Data Structures with AI Using ChatGPT
 - 27.6.1. Adaptation of Classical Data Structures for Use with AI Algorithms
 - 27.6.2. Design and Optimization of Specific Data Structures with ChatGPT
 - 27.6.3. Integration of Efficient Data Structures in Data Intensive Systems
 - 27.6.4. Strategies for Real-Time Data Manipulation and Storage in AI Data Structures

- 27.7. Programming Algorithms for AI Products
 - 27.7.1. Development and Implementation of Application-Specific Algorithms for AI Applications
 - 27.7.2. Algorithm Selection Strategies according to Problem Type and Product Requirements
 - 27.7.3. Adaptation of Classical Algorithms for Integration into AI Systems
 - 27.7.4. Evaluation and Performance Comparison between Different Algorithms in Development Contexts with AI
- 27.8. Design Patterns for AI Development
 - 27.8.1. Identification and Application of Common Design Patterns in Projects with AI Components
 - 27.8.2. Development of Specific Patterns for the Integration of Models and Algorithms into Existing Systems
 - 27.8.3. Strategies for the Implementation of Patterns to Improve Reusability and Maintainability in AI Projects
 - 27.8.4. Case Studies and Best Practices in the Application of Design Patterns in AI Architectures
- 27.9. Implementation of Clean Architecture using ChatGPT
 - 27.9.1. Fundamental Principles and Concepts of Clean Architecture
 - 27.9.2. Adaptation of Clean Architecture to Projects with AI Components
 - 27.9.3. Implementation of Layers and Dependencies in Systems with Clean Architecture
 - 27.9.4. Benefits and Challenges of Implementing Clean Architecture in Software Development with AI
- 27.10. Secure Software Development in Web Applications with *DeepCode*
 - 27.10.1. Principles of Security in the Development of Software with AI Components
 - 27.10.2. Identification and Mitigation of Potential Vulnerabilities in AI Models and Algorithms
 - 27.10.3. Implementation of Secure Development Practices in Web Applications with Artificial Intelligence Functionalities
 - 27.10.4. Strategies for the Protection of Sensitive Data and Prevention of Attacks in AI Projects

Module 28. Web Projects with Artificial Intelligence

- 28.1. Working Environment Preparation for Web Development with AI
 - 28.1.1. Development Environment Setup for AI-Powered Web Projects
 - 28.1.2. Selection and Preparation of Essential Tools for Web Development with AI
 - 28.1.3. Integration of Specific Libraries and Frameworks for Web Projects with Artificial Intelligence
 - 28.1.4. Implementation of Best Practices in the Configuration of Collaborative Development Environments
- 28.2. Workspace Creation for AI Projects with GitHub Copilot
 - 28.2.1. Effective Design and Organization of Workspaces for Web Projects with Artificial Intelligence Components
 - 28.2.2. Use of Project Management and Version Control Tools in the Workspace
 - 28.2.3. Strategies for Efficient Collaboration and Communication in the Development Team
 - 28.2.4. Adaptation of the Workspace to the Specific Needs of AI Web Projects
- 28.3. Design Patterns in Github Copilot Products
 - 28.3.1. Identification and Application of Common Design Patterns in User Interfaces with Artificial Intelligence Elements
 - 28.3.2. Development of Specific Patterns to Improve the User Experience in AI Web Projects
 - 28.3.3. Integration of Design Patterns in the Overall Architecture of Web Projects with Artificial Intelligence
 - 28.3.4. Evaluation and Selection of Appropriate Design Patterns According to the Project's Context
- 28.4. Front-End Development with GitHub Copilot
 - 28.4.1. Integration of AI Models in the Presentation Layer of Web Projects
 - 28.4.2. Development of Adaptive User Interfaces with Artificial Intelligence Elements
 - 28.4.3. Implementation of Natural Language Processing (NLP) Functionalities in Front-End Development
 - 28.4.4. Strategies for Performance Optimization in Front-End Development with AI

- 28.5. Database Creation using GitHub Copilot
 - 28.5.1. Selection of Database Technologies for Web Projects with Artificial Intelligence
 - 28.5.2. Design of Database Schemas for Storing and Managing AI-Related Data
 - 28.5.3. Implementation of Efficient Storage Systems for Large Volumes of Data Generated by AI Models
 - 28.5.4. Strategies for Security and Protection of Sensitive Data in AI Web Project Databases
- 28.6. Back-End Development with GitHub Copilot
 - 28.6.1. Integration of AI Services and Models in the Back-End Business Logic
 - 28.6.2. Development of Specific APIs and Endpoints for Communication between Front-End and AI Components
 - 28.6.3. Implementation of Data Processing and Decision-Making Logic in the Backend with Artificial Intelligence
 - 28.6.4. Strategies for Scalability and Performance in Back-End Development of Web Projects with AI
- 28.7. Optimization of the Deployment Process of Your Website
 - 28.7.1. Automation of Web Project Build and Deployment Processes with ChatGPT
 - 28.7.2. Implementing CI/CD Pipelines Tailored to Web Applications with Github Copilot
 - 28.7.3. Strategies for Efficient Release and Upgrade Management in Continuous Deployments
 - 28.7.4. Post-Deployment Monitoring and Analysis for Continuous Process Improvement
- 28.8. AI in Cloud Computing
 - 28.8.1. Integration of Artificial Intelligence Services in Cloud Computing Platforms
 - 28.8.2. Development of Scalable and Distributed Solutions using Cloud Services with AI Capabilities
 - 28.8.3. Strategies for Efficient Resource and Cost Management in Cloud Environments with AI-enabled Web Applications
 - 28.8.4. Evaluation and Comparison of Cloud Service Providers for AI-enabled Web Projects

- 28.9. Creating an AI Project for LAMP Environments with the Help of ChatGPT
 - 28.9.1. Adaptation of Web Projects Based on the LAMP Stack to Include Artificial Intelligence Components
 - 28.9.2. Integration of AI-specific Libraries and Frameworks in LAMP Environments
 - 28.9.3. Development of AI Functionalities that Complement the Traditional LAMP Architecture
 - 28.9.4. Strategies for Optimization and Maintenance in Web Projects with AI in LAMP Environments
- 28.10. Creating an AI Project for MEVN Environments Using ChatGPT
 - 28.10.1. Integration of MEVN Stack Technologies and Tools with Artificial Intelligence Components
 - 28.10.2. Development of Modern and Scalable Web Applications in MEVN Environments with AI Capabilities
 - 28.10.3. Implementation of Data Processing and Machine Learning Functionalities in MEVN Projects
 - 28.10.4. Strategies for Performance and Security Enhancement of AI-enabled Web Applications in MEVN Environments

Module 29. Mobile Applications with Artificial Intelligence

- 29.1. Working Environment Preparation for Mobile Development with AI
 - 29.1.1. Setting Up Mobile Development Environments for AI-Powered Projects
 - 29.1.2. Selection and Preparation of Specific Tools for Mobile Application Development with AI
 - 29.1.3. Integration of AI-Libraries and Frameworks in Mobile Development Environments
 - 29.1.4. Configuration of Emulators and Real Devices for Testing Mobile Applications with AI Components
- 29.2. Creation of a Workspace with GitHub Copilot
 - 29.2.1. Integration of GitHub Copilot in Mobile Development Environments
 - 29.2.2. Effective Use of GitHub Copilot for Code Generation in AI Projects
 - 29.2.3. Strategies for Developer Collaboration when Using GitHub Copilot in the Workspace
 - 29.2.4. Best Practices and Limitations in the Use of GitHub Copilot in Mobile Application Development with AI

- 29.3. Firebase Configuration
 - 29.3.1. Initial Configuration of a Firebase Project for Mobile Development
 - 29.3.2. Firebase Integration in Mobile Applications with Artificial Intelligence Functionality
 - 29.3.3. Use of Firebase Services as Database, Authentication, and Notifications in AI projects
 - 29.3.4. Strategies for Real-Time Data and Event Management in Firebase-enabled Mobile Applications
- 29.4. Concepts of Clean Architecture, DataSources, Repositories
 - 29.4.1. Fundamental Principles of Clean Architecture in Mobile Development with AI
 - 29.4.2. Implementation of DataSources and Repositories Layers with GitHub Copilot
 - 29.4.3. Design and Structuring of Components in Mobile Projects with Github Copilot
 - 29.4.4. Benefits and Challenges of Implementing Clean Architecture in Mobile Applications with AI
- 29.5. Creating Authentication Screen with GitHub Copilot
 - 29.5.1. Design and Development of User Interfaces for Authentication Screens in Mobile Applications with IA
 - 29.5.2. Integration of Authentication Services with Firebase in the Login Screen
 - 29.5.3. Use of Security and Data Protection Techniques in the Authentication Screen
 - 29.5.4. Personalization and Customization of the User Experience in the Authentication Screen
- 29.6. Creating Dashboard and Navigation with GitHub Copilot
 - 29.6.1. Dashboard Design and Development with Artificial Intelligence Elements
 - 29.6.2. Implementation of Efficient Navigation Systems in Mobile Applications with AI
 - 29.6.3. Integration of AI Functionalities in the Dashboard to Improve User Experience
- 29.7. Listing Screen Creation using GitHub Copilot
 - 29.7.1. Development of User Interfaces for Listing Screens in AI-enabled Mobile Applications
 - 29.7.2. Integration of Recommendation and Filtering Algorithms into the Listing Screen
 - 29.7.3. Use of Design Patterns for Effective Presentation of Data in the Listing Screen
 - 29.7.4. Strategies for Efficient Loading of Real-Time Data into the Listing Screen
- 29.8. Creating Details Screen with GitHub Copilot
 - 29.8.1. Design and Development of Detailed User Interfaces for the Presentation of Specific Information
 - 29.8.2. Integration of AI Functionalities to Enrich the Detailed Screen
 - 29.8.3. Implementation of Interactions and Animations in the Detailed Screen
 - 29.8.4. Strategies for Performance Optimization in Loading and Detail Display in AI-enabled Mobile Applications
- 29.9. Creating a Settings Screen with GitHub Copilot
 - 29.9.1. Development of User Interfaces for Configuration and Settings in AI-enabled Mobile Applications
 - 29.9.2. Integration of Customized Settings Related to Artificial Intelligence Components
 - 29.9.3. Implementation of Customized Options and Preferences in the Settings Screen
 - 29.9.4. Strategies for Usability and Clarity in the Presentation of Options in the Settings Screen
- 29.10. Creation of Icons, Splash and Graphic Resources for Your App with AI
 - 29.10.1. Design and Creation of Attractive Icons to Represent the AI Mobile Application
 - 29.10.2. Development of Splash Screens with Impactful Visuals
 - 29.10.3. Selection and Adaptation of Graphic Resources to Enhance the Aesthetics of the Mobile Application
 - 29.10.4. Strategies for Consistency and Visual Branding in the Graphic Elements of the Application with AI

Module 30. Artificial Intelligence for QA Testing

- 30.1. Software Testing Life Cycle
 - 30.1.1. Description and Understanding of the Testing Life Cycle in Software Development
 - 30.1.2. Phases of the Testing Life Cycle and its Importance in Quality Assurance
 - 30.1.3. Integration of Artificial Intelligence in Different Stages of the Testing Life Cycle
 - 30.1.4. Strategies for Continuous Improvement of the Testing Life Cycle using AI
- 30.2. Test Cases and Bug Detection with the Help of ChatGPT
 - 30.2.1. Effective Test Case Design and Writing in the Context of QA Testing
 - 30.2.2. Identification of Bugs and Errors during Test Case Execution
 - 30.2.3. Application of Early Bug Detection Techniques Using Static Analysis
 - 30.2.4. Use of Artificial Intelligence Tools for the Automatic Identification of Bugs in Test Cases

- 30.3. Types of Testing
 - 30.3.1. Exploration of Different Types of Testing in the QA Environment
 - 30.3.2. Unit, Integration, Functional, and Acceptance Testing: Characteristics and Applications
 - 30.3.3. Strategies for the Selection and Appropriate Combination of Testing Types in Projects with ChatGPT
 - 30.3.4. Adaptation of Conventional Testing Types to Projects with ChatGPT
- 30.4. Creation of a Testing Plan Using ChatGPT
 - 30.4.1. Design and Structure of a Comprehensive Testing Plan
 - 30.4.2. Identification of Requirements and Test Scenarios in AI Projects
 - 30.4.3. Strategies for Manual and Automated Test Planning
 - 30.4.4. Continuous Evaluation and Adjustment of the Testing Plan as the Project Develops
- 30.5. AI Bug Detection and Reporting
 - 30.5.1. Implementation of Automatic Bug Detection Techniques using Machine Learning Algorithms
 - 30.5.2. Use of ChatGPT for Dynamic Code Analysis to Search for Possible Bugs
 - 30.5.3. Strategies for Automatic Generation of Detailed Reports on Bugs Detected Using ChatGPT
 - 30.5.4. Effective Collaboration between Development and QA Teams in the Management of AI-Detected Bugs
- 30.6. Creation of Automated Testing with AI
 - 30.6.1. Development of Automated Test Scripts for Projects Using ChatGPT
 - 30.6.2. Integration of AI-Based Test Automation Tools
 - 30.6.3. Using ChatGPT for Dynamic Generation of Automated Test Cases
 - 30.6.4. Strategies for Efficient Execution and Maintenance of Automated Test Cases in AI Projects
- 30.7. API Testing
 - 30.7.1. Fundamental Concepts of API Testing and its Importance in QA
 - 30.7.2. Development of Tests for the Verification of APIs in Environments Using ChatGPT
 - 30.7.3. Strategies for Data and Results Validation in API Testing with ChatGPT
 - 30.7.4. Use of Specific Tools for API Testing in Projects with Artificial Intelligence
- 30.8. AI Tools for Web Testing
 - 30.8.1. Exploration of Artificial Intelligence Tools for Test Automation in Web Environments
 - 30.8.2. Integration of Element Recognition and Visual Analysis Technologies in Web Testing
 - 30.8.3. Strategies for Automatic Detection of Changes and Performance Problems in Web Applications Using ChatGPT
 - 30.8.4. Evaluation of Specific Tools for Improving Efficiency in Web Testing with AI
- 30.9. Mobile Testing Using AI
 - 30.9.1. Development of Testing Strategies for Mobile Applications with AI Components
 - 30.9.2. Integration of Specific Testing Tools for AI-Based Mobile Platforms
 - 30.9.3. Use of ChatGPT for Detecting Performance Problems in Mobile Applications
 - 30.9.4. Strategies for the Validation of Interfaces and Specific Functions of Mobile Applications by AI
- 30.10. QA Tools with AI
 - 30.10.1. Exploration of QA Tools and Platforms that Incorporate Artificial Intelligence Functionality
 - 30.10.2. Evaluation of Tools for Efficient Test Management and Test Execution in AI Projects
 - 30.10.3. Using ChatGPT for the Generation and Optimization of Test Cases
 - 30.10.4. Strategies for Effective Selection and Adoption of QA Tools with AI Capabilities



With this complete curriculum, every algorithm you develop will bring you closer to creating solutions that will improve lives and transform industries”

04

Teaching Objectives

With this complete curriculum, every algorithm you develop will bring you closer to creating solutions that will improve lives and transform industries. Additionally, the university program aims to ensure that graduates can apply these skills in real-world scenarios. Another key objective is to develop a deep understanding of the ethics of Artificial Intelligence, preparing professionals to make responsible decisions regarding the use of technology. Finally, the program will focus on developing leadership skills, enabling professionals to not only execute projects but also lead teams and design innovative strategies within the field of Computer Programming.



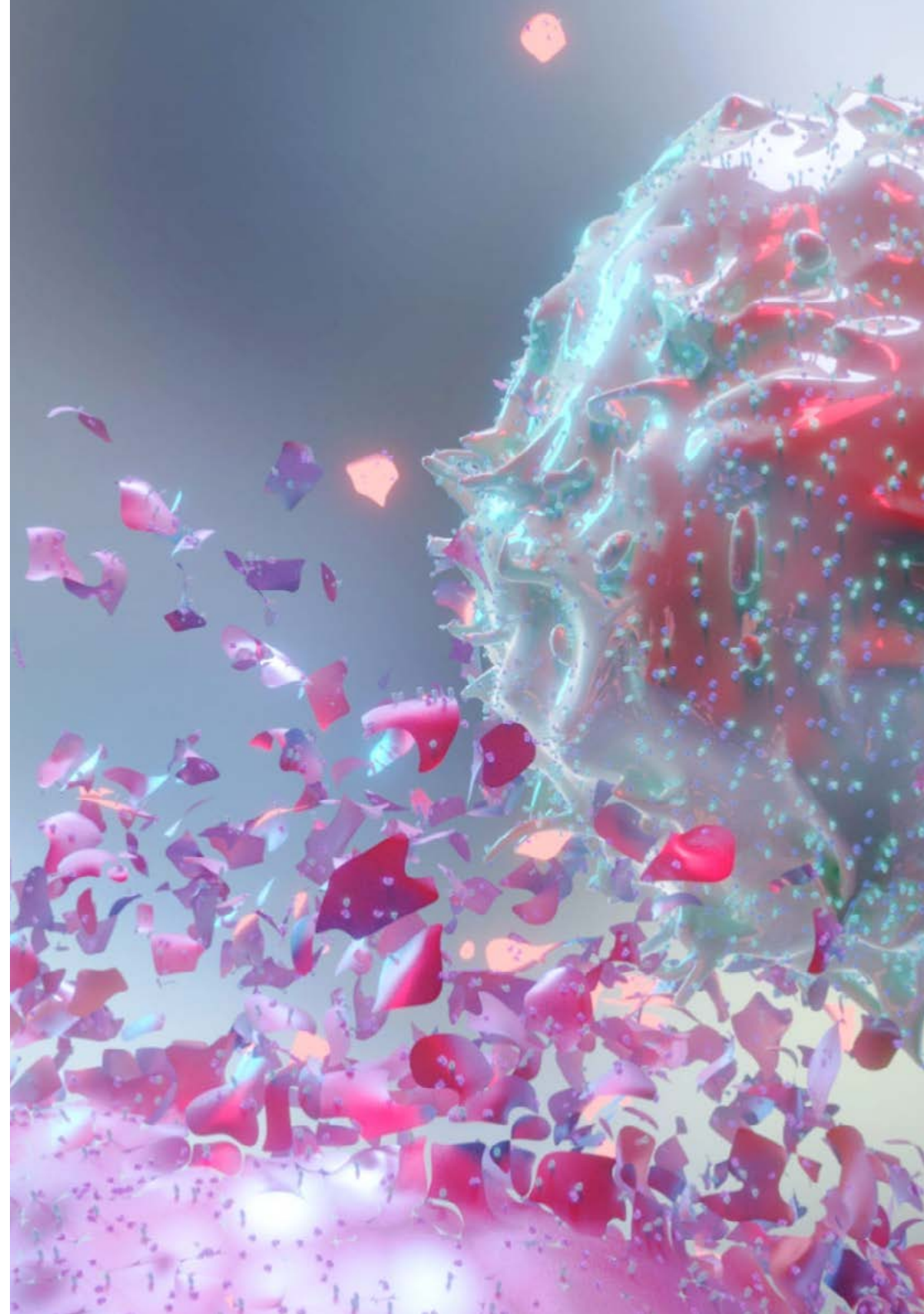
“

In an increasingly automated world, becoming an AI expert positions you as a leader at the forefront of innovation”



General Objectives

- ♦ Develop skills to integrate Artificial Intelligence into Software Development and Programming
- ♦ Apply machine learning techniques to create intelligent software applications
- ♦ Develop competencies in implementing AI algorithms in software applications
- ♦ Use AI to optimize the performance of Information Systems and applications
- ♦ Manage AI projects in custom application development for businesses
- ♦ Use Artificial Intelligence to optimize search and classification algorithms
- ♦ Enhance competencies in creating AI-based applications for improving commercial services
- ♦ Implement AI for the analysis and visualization of complex data in software applications
- ♦ Create AI solutions for integrating Computer Programming with other emerging technologies
- ♦ Apply AI in the design and improvement of user interfaces for intelligent software applications





Specific Objectives

Module 1. Leadership, Ethics, and Corporate Social Responsibility

- ♦ Develop leadership skills strategic and multidisciplinary teams in Technological environments
- ♦ Understand the ethical principles governing the use of Artificial Intelligence and promote responsible application of technologies

Module 2. Strategic Management and Executive Management

- ♦ Acquire skills to develop innovative strategies that integrate Artificial Intelligence into business processes
- ♦ Improve executive decision-making through data analysis and predictive models

Module 3. People and Talent Management

- ♦ Implement strategies to attract, retain, and develop technological talent specializing in Artificial Intelligence
- ♦ Create an organizational culture that fosters collaboration between technology and innovation teams

Module 4. Economic and Financial Management

- ♦ Analyze the financial and economic impacts of implementing AI-based solutions in a company
- ♦ Develop investment plans for Artificial Intelligence projects that generate long-term value

Module 5. Operations and Logistics Management

- ♦ Optimize operational processes using Artificial Intelligence and predictive analytics
- ♦ Integrate advanced technological solutions into the supply chain to improve logistical efficiency

Module 6. Information Systems Management

- ♦ Design and manage IT infrastructures tailored to the needs of Artificial Intelligence
- ♦ Ensure the effective integration of AI systems into the organization's technological architecture

Module 7. Commercial Management, Strategic Marketing, and Corporate Communication

- ♦ Use AI tools to enhance marketing strategies and product personalization
- ♦ Apply predictive models for business decision-making and audience segmentation

Module 8. Market Research, Advertising and Commercial Management

- ♦ Use Artificial Intelligence for market analysis, trends, and consumer behavior
- ♦ Develop personalized advertising campaigns and commercial strategies based on big data analysis

Module 9. Innovation and Project Management

- ♦ Foster technological innovation by integrating Artificial Intelligence into business projects
- ♦ Manage AI projects from conceptualization to successful implementation, focusing on tangible results

Module 10. Executive Management

- ♦ Develop a strategic leadership vision to drive AI adoption in business project management
- ♦ Develop a strategic leadership vision to drive AI adoption in business project management

Module 11. Fundamentals of Artificial Intelligence

- ♦ Gain a deep understanding of the fundamental concepts of AI, such as machine learning and neural networks
- ♦ Identify AI applications across various industrial sectors and their impact on business competitiveness

Module 12. Types and Life Cycle of Data

- ♦ Understand the different types of data and their life cycle within an AI project
- ♦ Develop skills to manage and organize large data volumes efficiently for AI projects

Module 13. Data in Artificial Intelligence

- ♦ Analyze the importance of data as an essential input for training AI models
- ♦ Apply techniques to ensure the quality, integrity, and relevance of the data used in AI

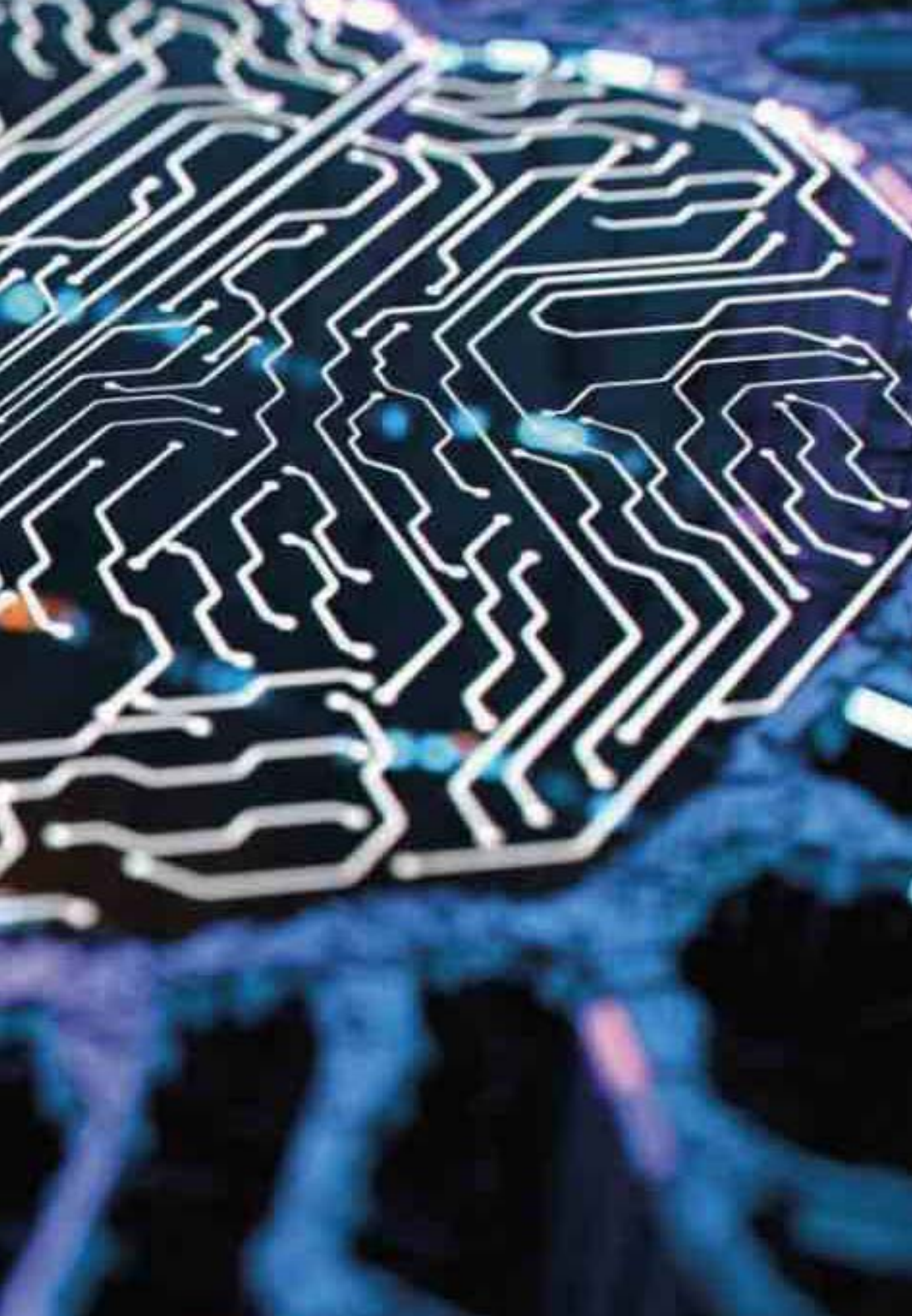
Module 14. Data Mining. Selection, Pre-Processing and Transformation

- ♦ Develop competencies in data mining to extract meaningful patterns and trends for decision-making
- ♦ Apply data preprocessing and transformation techniques to improve the accuracy of AI models

Module 15. Algorithm and Complexity in Artificial Intelligence

- ♦ Understand and apply the fundamentals of algorithms in developing efficient AI solutions
- ♦ Evaluate the computational complexity of AI algorithms and optimize their performance with large data volumes





Module 16. Intelligent Systems

- ◆ Develop and manage autonomous systems that make intelligent decisions in complex environments
- ◆ Implement AI solutions that optimize machine-human interactions in industrial and commercial applications

Module 17. Machine Learning and Data Mining

- ◆ Apply machine learning algorithms to extract valuable patterns and knowledge from large datasets
- ◆ Develop data mining strategies to improve decision-making in dynamic and changing environments

Module 18. Neural Networks, the Basis of Deep Learning

- ◆ Understand and apply the fundamental principles of neural networks in developing deep learning models
- ◆ Implement neural network-based solutions for tasks like classification, prediction, and pattern recognition

Module 19. Deep Neural Networks Training

- ◆ Develop advanced competencies in training deep neural networks to improve model accuracy and efficiency
- ◆ Optimize the performance of deep learning models using techniques like regularization, hyperparameter tuning, and validation strategies

Module 20. Model Customization and Training with TensorFlow

- ♦ Learn to customize and optimize AI models using TensorFlow, one of the most powerful tools in deep learning
- ♦ Implement customized models for specific tasks, enhancing performance and adaptability to different environments

Module 21. Deep Computer Vision with Convolutional Neural Networks

- ♦ Apply Convolutional Neural Networks (CNN) to solve computer vision problems like image classification and object recognition
- ♦ Optimize computer vision models for real-time image processing tasks

Module 22. Natural Language Processing (NLP) with Recurrent Neural Networks (RNN) and Attention

- ♦ Develop natural language processing applications using Recurrent Neural Networks (RNN) and attention mechanisms
- ♦ Implement innovative NLP solutions for tasks such as machine translation, sentiment analysis, and chatbots

Module 23. Autoencoders, GANs and Diffusion Models

- ♦ Master the use of Autoencoders and Generative Adversarial Networks (GANs) for creating generative models and improving data quality
- ♦ Apply diffusion models to enhance AI systems' ability to generate realistic synthetic data

Module 24. Bioinspired Computing

- ♦ Understand the principles of bioinspired computing and apply these approaches to create more efficient and natural AI solutions
- ♦ Explore the relationship between biological systems and AI to develop new algorithms and processing models

Module 25. Artificial Intelligence: Strategies and Applications

- ♦ Develop AI implementation strategies that generate value and optimize processes in various industrial sectors
- ♦ Evaluate and apply AI applications in areas like automation, healthcare, finance, and education

Module 26. Improving Software Development Productivity with Artificial Intelligence

- ♦ Use AI tools to automate and optimize the software development life cycle, from coding to testing
- ♦ Improve development team productivity by implementing AI solutions that streamline software creation and maintenance

Module 27. Software Architecture with Artificial Intelligence

- ♦ Design intelligent software architectures that integrate AI techniques to enhance functionality, scalability, and efficiency
- ♦ Develop AI-based distributed systems that maximize software performance and resilience



Module 28: Web Projects with Artificial Intelligence

- ◆ Apply AI in web application development, creating more personalized and interactive user experiences
- ◆ Implement AI solutions in content management, personalized recommendations, and task automation in web projects

Module 29: Mobile Applications with Artificial Intelligence

- ◆ Integrate AI technologies into mobile applications to improve user experience and offer advanced features like virtual assistants and personalization
- ◆ Optimize mobile application performance by implementing AI to enhance efficiency and usability

Module 30: Artificial Intelligence for QA Testing

- ◆ Apply AI to automate software testing and improve quality assurance processes
- ◆ Develop intelligent systems that detect and fix errors more quickly and accurately during the software life cycle



This Advanced Master's Degree MBA is more than just a specialization; it's a unique opportunity to take your skills and knowledge to the next level!"

05

Career Opportunities

Upon completion of this Advanced Master's Degree MBA, graduates will be prepared to work in a wide range of technology-driven sectors, propelled by the integration of Artificial Intelligence. In this way, they may hold positions in software companies, technology consulting firms, financial institutions, telecommunications companies, and AI-specialized startups. For this reason, the most in-demand profiles will be those capable of leading multidisciplinary teams, developing innovative solutions, and managing AI projects that directly impact the optimization of business processes and the creation of new Artificial Intelligence-based products and services.



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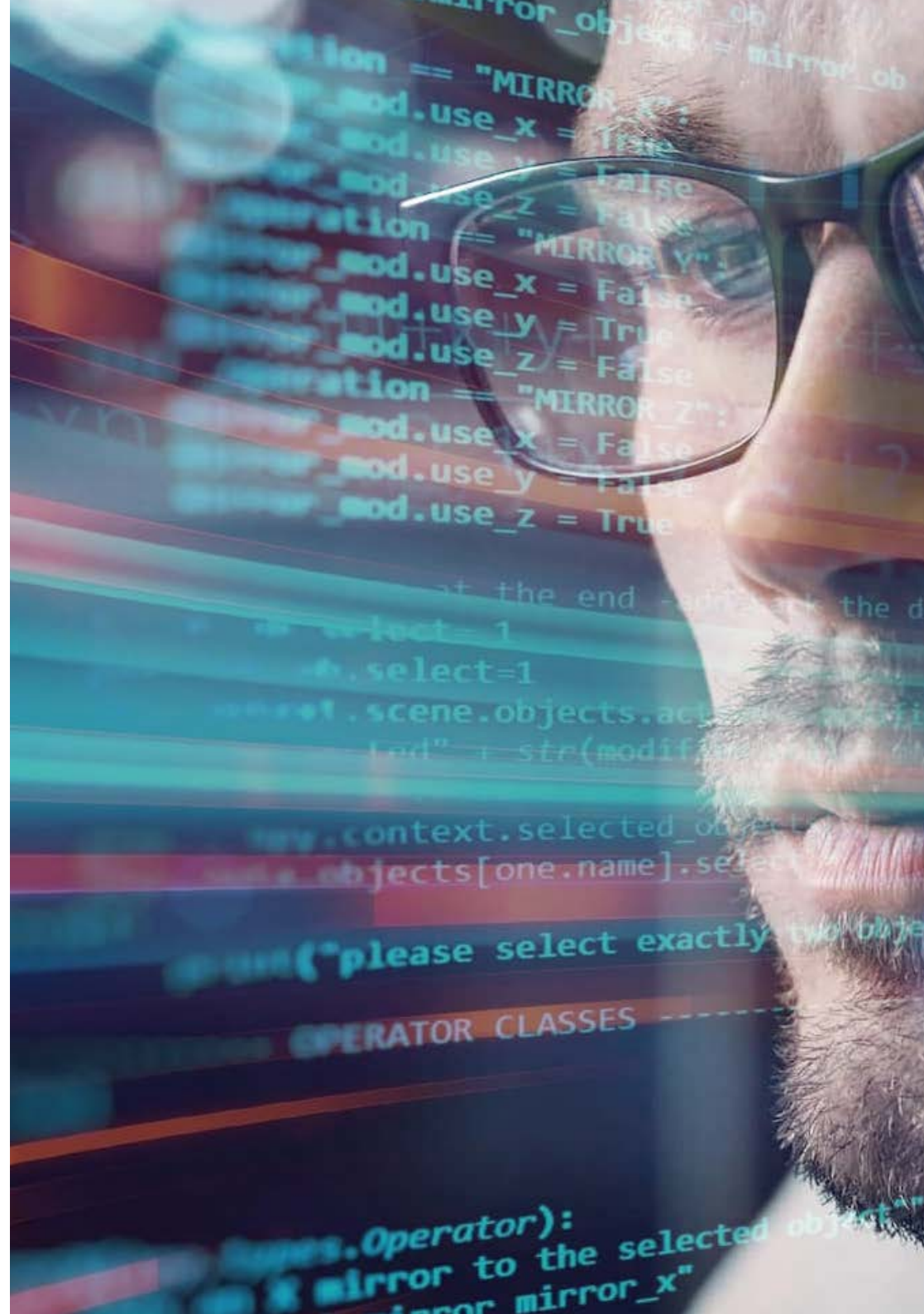
The leaders of tomorrow are those who master emerging technologies today. With TECH Global University, you will be one of them”

Graduate Profile

Graduates will be highly qualified professionals with a solid understanding of the fundamental principles of Artificial Intelligence and their application in the development of advanced computing solutions. They will also possess practical skills in programming, data management, and the creation of machine learning and deep learning models. In addition, they will be able to make strategic decisions regarding the use of AI in business contexts, managing complex projects and leading multidisciplinary teams. Therefore, with an ethical and responsible approach, graduates will be prepared to face the challenges posed by the use of Artificial Intelligence in innovative sectors.

Turn your passion for technology and programming into a high-impact career with this university program in AI.

- ♦ **Ability to Develop Intelligent Solutions:** Design and implement Artificial Intelligence-based solutions to solve complex problems across various sectors, such as automation, process optimization, and service personalization
- ♦ **Critical Thinking and Complex Problem Solving:** Develop the ability to address and solve technical problems innovatively, using scientific and analytical methods to find efficient solutions in AI projects
- ♦ **Data Management for AI:** Handle, process, and transform large volumes of data, as well as apply data mining and preprocessing techniques to improve the quality of AI models
- ♦ **AI Project Management:** Lead and manage complex Artificial Intelligence projects, ensuring compliance with deadlines, budgets, and established objectives, while managing the risks associated with technological projects





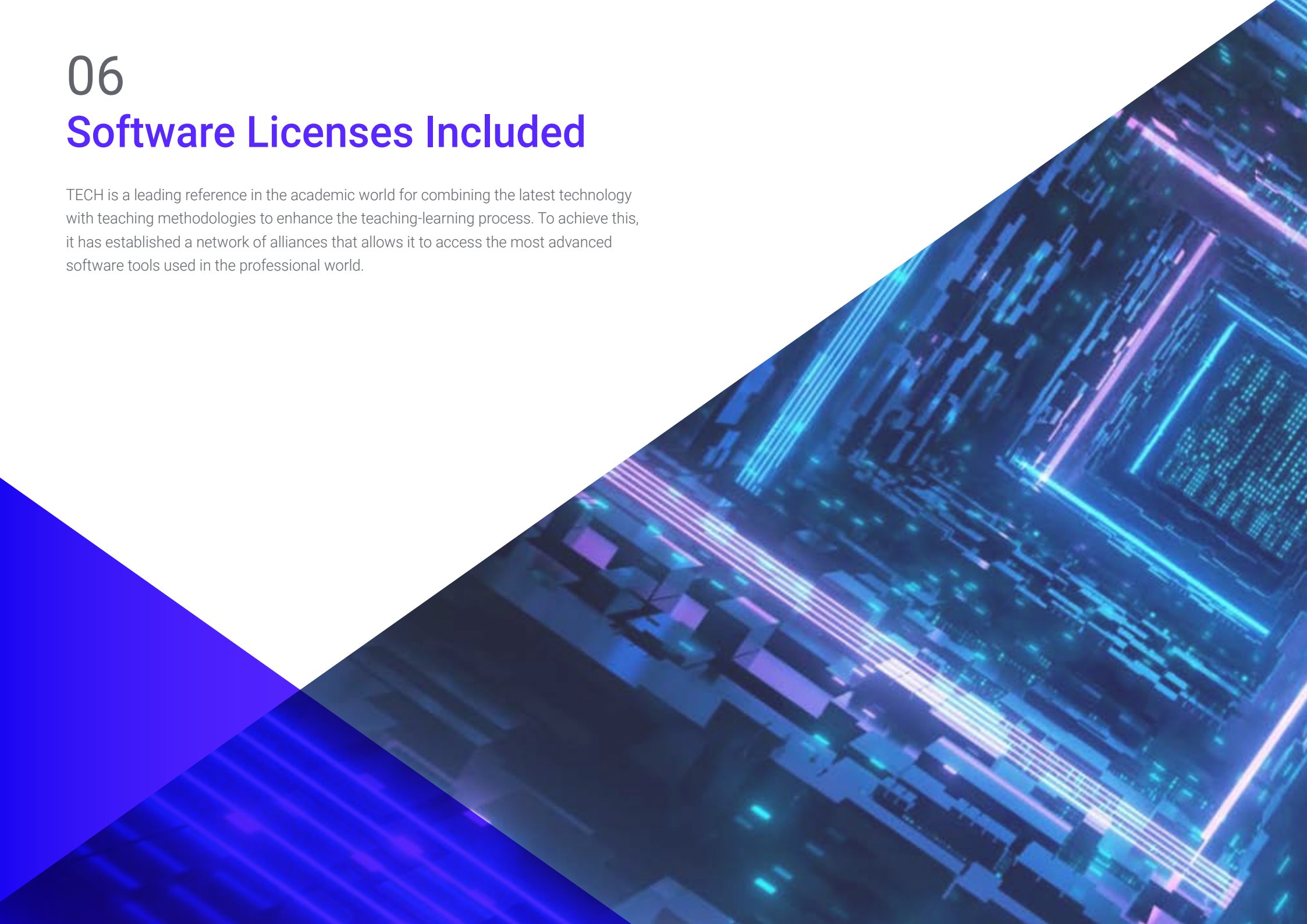
After completing this university program, you will be able to apply your knowledge and skills in the following positions:

1. **AI-Specialized Data Scientist:** Responsible for extracting knowledge and patterns from large volumes of data using advanced Artificial Intelligence techniques
2. **Artificial Intelligence Engineer:** Responsible for developing and implementing AI solutions to solve complex problems across various industrial sectors
3. **Machine Learning Engineer:** Creator of machine learning models to improve the efficiency of automated systems
4. **Deep Learning Specialist:** Developer of advanced models for complex tasks such as computer vision and natural language processing
5. **AI Solutions Architect:** Designer of software architectures that integrate AI techniques to deliver efficient and scalable solutions in technology-driven organizations
6. **AI Solutions Architect:** Designer of software architectures that integrate AI techniques to deliver efficient and scalable solutions in technology-driven organizations
7. **Advanced Data Analyst:** Manager of data using Artificial Intelligence tools to extract key insights for strategic decision-making
8. **Artificial Intelligence Consultant:** Advisor to organizations on the integration and use of AI to optimize processes and enhance competitiveness
9. **Chief Data Officer (CDO):** Leader responsible for managing data strategy and implementing AI solutions within the organization to maximize the value of information
10. **Chief AI Officer (CAIO):** Leader of Artificial Intelligence adoption and development within a company, ensuring alignment with strategic objectives

06

Software Licenses Included

TECH is a leading reference in the academic world for combining the latest technology with teaching methodologies to enhance the teaching-learning process. To achieve this, it has established a network of alliances that allows it to access the most advanced software tools used in the professional world.



“

Upon enrolling, you will receive, completely free of charge, academic credentials for the following professional software applications”

TECH has established a network of professional alliances with the leading providers of software applied to various professional fields. These alliances allow TECH to access hundreds of software applications and licenses, making them available to its students.

The software licenses for academic use will allow students to utilize the most advanced applications in their professional field, enabling them to become familiar with and master these tools without incurring any costs. TECH will manage the licensing process so that students can use them unlimitedly during the time they are enrolled in the Advanced Master's Degree MBA in Artificial Intelligence in Computer Programming, and they will be able to do so completely free of charge.

TECH will provide free access to the following software applications:



Google Career Launchpad

Google Career Launchpad is a solution for developing digital skills in technology and data analysis. With an estimated value of **5,000 dollars**, it is included **for free** in TECH's university program, providing access to interactive labs and certifications recognized in the industry.

This platform combines technical training with practical cases, using technologies such as BigQuery and Google AI. It offers simulated environments to work with real data, along with a network of experts for personalized guidance.

Flutterflow

Flutterflow is an innovative platform based on Flutter that allows users to design, prototype, and create mobile and web applications in a visual and intuitive way, without the need to write code. Its simplified development environment significantly reduces production times and facilitates the creation of functional and professional digital solutions.

Throughout this university program, students will have **free access** to a full license of **Flutterflow**, valued at approximately **360 dollars**. This tool will provide them with the opportunity to gain direct experience in the development of real applications, strengthening key skills in interface design, business logic, and cross-platform deployment, without incurring additional costs.

AskYourDatabase

AskYourDatabase is an innovative solution for analyzing data using natural language, valued at **150 dollars**. During the program, graduates will use it **free of charge**, taking advantage of its ability to generate insights without writing code.

This platform promotes collaborative work in real-world scenarios, enabling users to manage repositories, collaborate in teams, and automate workflows. It includes GitHub Copilot, support for multiple IDEs, and access to technical resources that enhance development and code review capabilities in various languages and professional contexts.

GitHub Education

GitHub Education is a collaborative platform for software development, offering professional tools for version control and project management. With an approximate value of **120 euros annually**, it is provided **free of charge** during the university program.

This platform promotes collaborative work in real-world scenarios, enabling users to manage repositories, collaborate in teams, and automate workflows. It includes GitHub Copilot, support for multiple IDEs, and access to technical resources that enhance development and code review capabilities in various languages and professional contexts.



07

Study Methodology

TECH is the world's first university to combine the **case study** methodology with **Relearning**, a 100% online learning system based on guided repetition.

This disruptive pedagogical strategy has been conceived to offer professionals the opportunity to update their knowledge and develop their skills in an intensive and rigorous way. A learning model that places students at the center of the educational process giving them the leading role, adapting to their needs and leaving aside more conventional methodologies.



“

TECH will prepare you to face new challenges in uncertain environments and achieve success in your career”

The student: the priority of all TECH programs

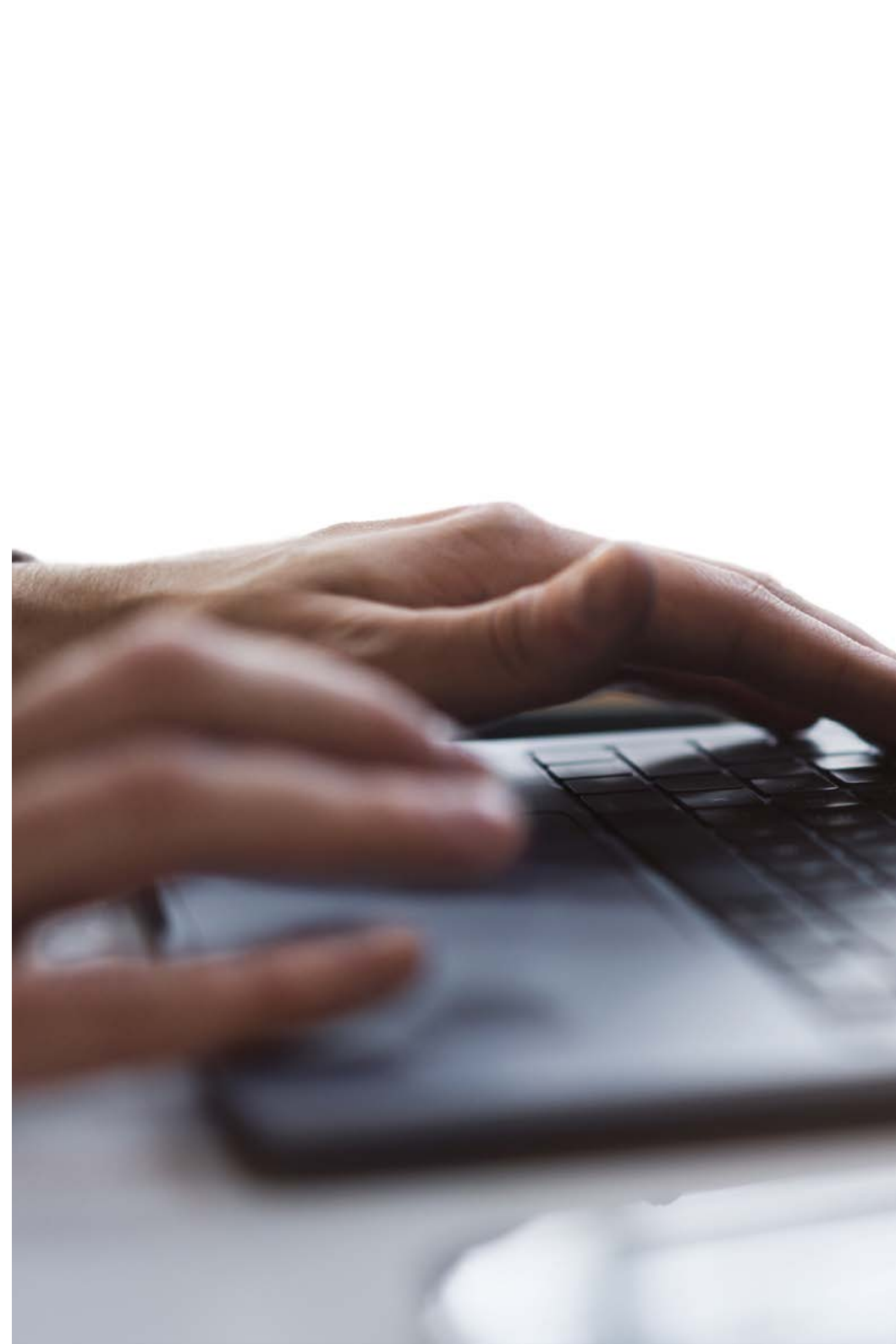
In TECH's study methodology, the student is the main protagonist.

The teaching tools of each program have been selected taking into account the demands of time, availability and academic rigor that, today, not only students demand but also the most competitive positions in the market.

With TECH's asynchronous educational model, it is students who choose the time they dedicate to study, how they decide to establish their routines, and all this from the comfort of the electronic device of their choice. The student will not have to participate in live classes, which in many cases they will not be able to attend. The learning activities will be done when it is convenient for them. They can always decide when and from where they want to study.

“

*At TECH you will NOT have live classes
(which you might not be able to attend)”*



The most comprehensive study plans at the international level

TECH is distinguished by offering the most complete academic itineraries on the university scene. This comprehensiveness is achieved through the creation of syllabi that not only cover the essential knowledge, but also the most recent innovations in each area.

By being constantly up to date, these programs allow students to keep up with market changes and acquire the skills most valued by employers. In this way, those who complete their studies at TECH receive a comprehensive education that provides them with a notable competitive advantage to further their careers.

And what's more, they will be able to do so from any device, pc, tablet or smartphone.

“*TECH's model is asynchronous, so it allows you to study with your pc, tablet or your smartphone wherever you want, whenever you want and for as long as you want*”

Case Studies and Case Method

The case method has been the learning system most used by the world's best business schools. Developed in 1912 so that law students would not only learn the law based on theoretical content, its function was also to present them with real complex situations. In this way, they could make informed decisions and value judgments about how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

With this teaching model, it is students themselves who build their professional competence through strategies such as Learning by Doing or Design Thinking, used by other renowned institutions such as Yale or Stanford.

This action-oriented method will be applied throughout the entire academic itinerary that the student undertakes with TECH. Students will be confronted with multiple real-life situations and will have to integrate knowledge, research, discuss and defend their ideas and decisions. All this with the premise of answering the question of how they would act when facing specific events of complexity in their daily work.



Relearning Methodology

At TECH, case studies are enhanced with the best 100% online teaching method: Relearning.

This method breaks with traditional teaching techniques to put the student at the center of the equation, providing the best content in different formats. In this way, it manages to review and reiterate the key concepts of each subject and learn to apply them in a real context.

In the same line, and according to multiple scientific researches, reiteration is the best way to learn. For this reason, TECH offers between 8 and 16 repetitions of each key concept within the same lesson, presented in a different way, with the objective of ensuring that the knowledge is completely consolidated during the study process.

Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.



A 100% online Virtual Campus with the best teaching resources

In order to apply its methodology effectively, TECH focuses on providing graduates with teaching materials in different formats: texts, interactive videos, illustrations and knowledge maps, among others. All of them are designed by qualified teachers who focus their work on combining real cases with the resolution of complex situations through simulation, the study of contexts applied to each professional career and learning based on repetition, through audios, presentations, animations, images, etc.

The latest scientific evidence in the field of Neuroscience points to the importance of taking into account the place and context where the content is accessed before starting a new learning process. Being able to adjust these variables in a personalized way helps people to remember and store knowledge in the hippocampus to retain it in the long term. This is a model called Neurocognitive context-dependent e-learning that is consciously applied in this university qualification.

In order to facilitate tutor-student contact as much as possible, you will have a wide range of communication possibilities, both in real time and delayed (internal messaging, telephone answering service, email contact with the technical secretary, chat and videoconferences).

Likewise, this very complete Virtual Campus will allow TECH students to organize their study schedules according to their personal availability or work obligations. In this way, they will have global control of the academic content and teaching tools, based on their fast-paced professional update.



The online study mode of this program will allow you to organize your time and learning pace, adapting it to your schedule”

The effectiveness of the method is justified by four fundamental achievements:

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.

The university methodology top-rated by its students

The results of this innovative teaching model can be seen in the overall satisfaction levels of TECH graduates.

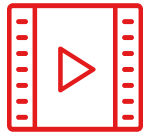
The students' assessment of the teaching quality, the quality of the materials, the structure of the program and its objectives is excellent. Not surprisingly, the institution became the top-rated university by its students according to the global score index, obtaining a 4.9 out of 5.

Access the study contents from any device with an Internet connection (computer, tablet, smartphone) thanks to the fact that TECH is at the forefront of technology and teaching.

You will be able to learn with the advantages that come with having access to simulated learning environments and the learning by observation approach, that is, Learning from an expert.



As such, the best educational materials, thoroughly prepared, will be available in this program:



Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

This content is then adapted in an audiovisual format that will create our way of working online, with the latest techniques that allow us to offer you high quality in all of the material that we provide you with.



Practicing Skills and Abilities

You will carry out activities to develop specific competencies and skills in each thematic field. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop within the framework of the globalization we live in.



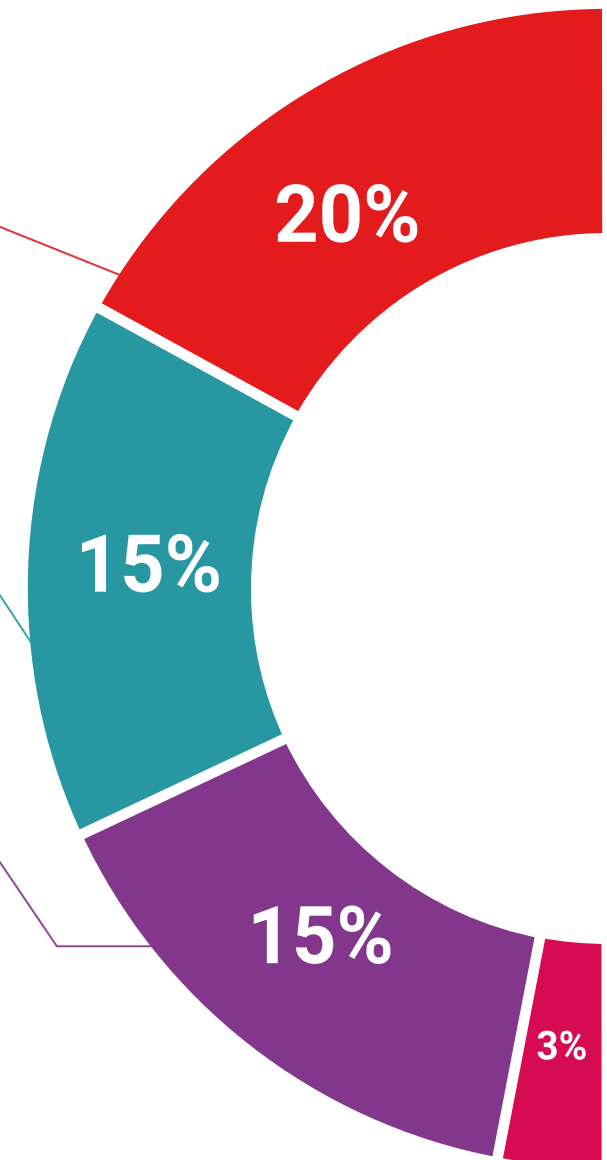
Interactive Summaries

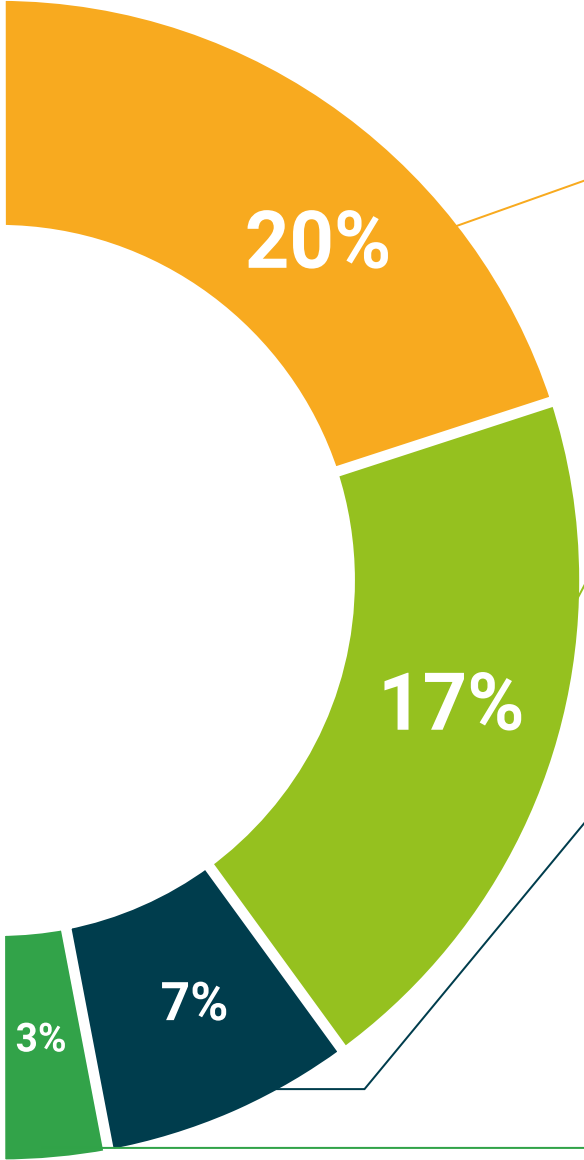
We present the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge. This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



Additional Reading

Recent articles, consensus documents, international guides... In our virtual library you will have access to everything you need to complete your education.





Case Studies

Students will complete a selection of the best case studies in the field. Cases that are presented, analyzed, and supervised by the best specialists in the world.



Testing & Retesting

We periodically assess and re-assess your knowledge throughout the program. We do this on 3 of the 4 levels of Miller's Pyramid.



Classes

There is scientific evidence suggesting that observing third-party experts can be useful. Learning from an expert strengthens knowledge and memory, and generates confidence for future difficult decisions.



Quick Action Guides

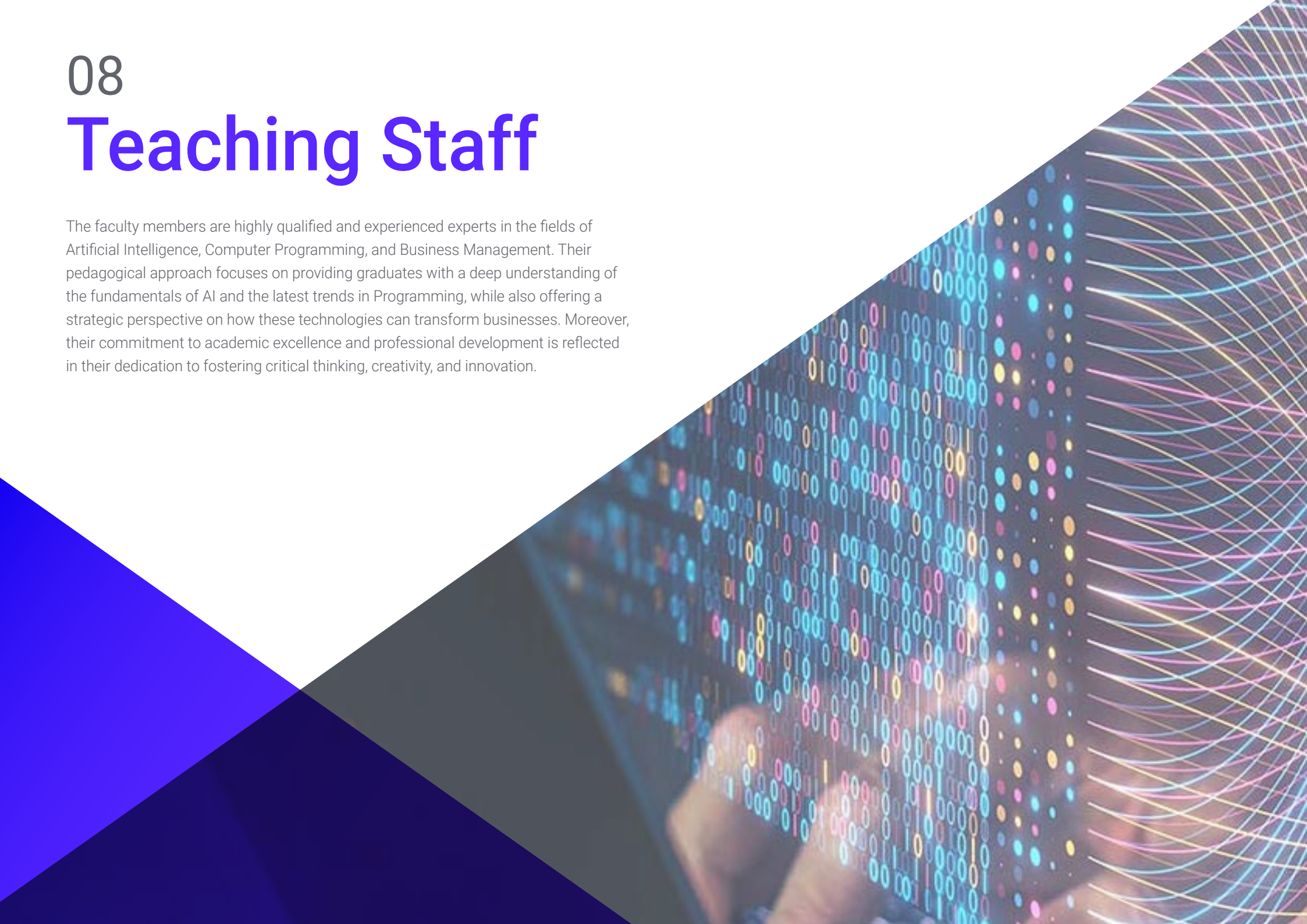
TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical and effective way to help students progress in their learning.



08

Teaching Staff

The faculty members are highly qualified and experienced experts in the fields of Artificial Intelligence, Computer Programming, and Business Management. Their pedagogical approach focuses on providing graduates with a deep understanding of the fundamentals of AI and the latest trends in Programming, while also offering a strategic perspective on how these technologies can transform businesses. Moreover, their commitment to academic excellence and professional development is reflected in their dedication to fostering critical thinking, creativity, and innovation.



“

The faculty comes from a variety of distinguished professional backgrounds, bringing a unique combination of theoretical knowledge and practical experience”

International Guest Director

With over 20 years of experience in designing and leading global **talent acquisition** teams, Jennifer Dove is an expert in **recruitment** and **technology strategy**. Throughout her career, she has held senior positions in several technology organizations within *Fortune 50* companies such as **NBCUniversal** and **Comcast**. Her background has allowed her to excel in competitive, high-growth environments.

As **Vice President of Talent Acquisition** at **Mastercard**, she is responsible for overseeing talent onboarding strategy and execution, collaborating with business leaders and **HR managers** to meet operational and strategic hiring objectives. In particular, she aims to build diverse, inclusive and high-performing teams that drive innovation and growth of the company's products and services. In addition, she is adept at using tools to attract and retain the best people from around the world. **She is also responsible for** amplifying Mastercard's employer brand and value proposition through publications, events and social media.

Jennifer Dove has demonstrated her commitment to continuous professional development by actively participating in networks of **Human Resources** professionals and contributing to the onboarding of numerous employees at different companies. After earning her bachelor's degree in Organizational Communication from the University of Miami, she has held management positions in recruitment for companies in various areas.

On the other hand, it has been recognized for its ability to lead organizational transformations, **integrate technologies** into recruitment processes and develop leadership programs that prepare institutions for future challenges. She has also successfully implemented **occupational wellness programs** that have significantly increased employee satisfaction and retention.



Ms. Dove, Jennifer

- Vice President of Talent Acquisition at Mastercard, New York, United States
- Director of Talent Acquisition at NBCUniversal Media, New York, USA
Head of Recruitment at Comcast
- Director of Recruiting at Rite Hire Advisory
- Executive Vice President of the Sales Division at Ardor NY Real Estate
- Director of Recruitment at Valerie August & Associates
- Account Executive at BNC
- Account Executive at Vault
- Degree in Organizational Communication from the University of Miami

“

Thanks to TECH, you will be able to learn with the best professionals in the world"

International Guest Director

A technology leader with decades of experience in major technology multinationals, Rick Gauthier has developed prominently in the field of cloud services and end-to-end process improvement. He has been recognized as a leader and manager of highly efficient teams, showing a natural talent for ensuring a high level of engagement among his employees.

He possesses innate gifts in strategy and executive innovation, developing new ideas and backing his success with quality data. His background at Amazon has allowed him to manage and integrate the company's IT services in the United States. At Microsoft he led a team of 104 people, responsible for providing corporate-wide IT infrastructure and supporting product engineering departments across the company.

This experience has allowed him to stand out as a high-impact manager with remarkable abilities to increase efficiency, productivity and overall customer satisfaction.



Mr. Gauthier, Rick

- ♦ Regional IT Director at Amazon, Seattle, United States
- ♦ Senior Program Manager at Amazon
- ♦ Vice President of Wimmer Solutions
- ♦ Senior Director of Productive Engineering Services at Microsoft
- ♦ Degree in Cybersecurity from Western Governors University
- ♦ Technical Certificate in Commercial Diving from Divers Institute of Technology
- ♦ Degree in Environmental Studies from The Evergreen State College

“

TECH has a distinguished and specialized group of International Guest Directors, with important leadership roles in the leading companies in the global market"

International Guest Director

Romi Arman is a renowned international expert with more than two decades of experience in **Digital Transformation, Marketing, Strategy and Consulting**. Through that extended trajectory, he has taken different risks and is a permanent **advocate for innovation and change** in the business environment. With that expertise, he has collaborated with CEOs and corporate organizations from all over the world, pushing them to move away from traditional business models. In this way, he has helped companies such as Shell Energy become **true market leaders**, focused on their **customers and the digital world**.

The strategies designed by Arman have a latent impact, as they have enabled several corporations to improve the experiences of consumers, staff and shareholders alike. The success of this expert is quantifiable through tangible metrics such as **CSAT, employee engagement** in the institutions where he has practiced and the growth of the **EBITDA financial indicator** in each of them.

Also, in his professional career, he has nurtured and led high-performance teams that have even received awards for their **transformational potential**. With Shell, specifically, the executive has always set out to overcome three challenges: meeting customers' complex decarbonization **demands** supporting a “cost-effective decarbonization” and **overhauling** a fragmented data, **digital and technology landscape**. Therefore, his efforts have shown that in order to achieve sustainable success, it is essential to start from the needs of consumers and lay the foundations for the transformation of processes, data, technology and culture.

In addition, the executive stands out for his mastery of the **business applications of Artificial Intelligence**, a subject in which he holds a postgraduate degree from the London Business School. At the same time, he has accumulated experience in IoT and **Salesforce**.



Mr. Arman, Romi

- ♦ Digital Transformation Director (CDO) at Shell Energy Corporation, London, UK
- ♦ Global Director of E-Commerce and Customer Service at Shell Energy Corporation
- ♦ National Key Account Manager (OEM and automotive retailers) for Shell in Kuala Lumpur, Malaysia
- ♦ Senior Management Consultant (Financial Services Sector) for Accenture based in Singapore
- ♦ Bachelor's Degree from the University of Leeds
- ♦ Postgraduate Degree in Business Applications of AI for Senior Executives from the London Business School
- ♦ CCXP Customer Experience Professional Certification
- ♦ Executive Digital Transformation Course by IMD

“

Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice”

International Guest Director

Manuel Arens is an experienced data management professional and leader of a highly qualified team. In fact, Arens holds the position of **global purchasing manager** in Google's Technical Infrastructure and Data Center division, where he has spent most of his professional career. Based in Mountain View, California, he has provided solutions for the tech giant's operational challenges, such as master **data integrity**, **vendor data updates** and **vendor prioritization**. He has led data center supply chain planning and vendor risk assessment, generating improvements in vendor risk assessment, resulting in process improvements and workflow management that have resulted in significant cost savings.

With more than a decade of work providing digital solutions and leadership for companies in diverse industries, he has extensive experience in all aspects of strategic solution delivery, including **marketing**, **media analytics**, **measurement** and **attribution**. In fact, he has received a number of accolades for his work, including the **BIM Leadership Award**, the **Search Leadership Award**, the **Lead Generation Export Program Award** and the **Export Lead Generation Program Award** and the **EMEA Best Sales Model Award**.

Arens also served as **Sales Manager** in Dublin, Ireland. In this role, he built a team of 4 to 14 members over three years and led the sales team to achieve results and collaborate well with each other and cross-functional teams. He also served as **Senior Industry Analyst**, in Hamburg, Germany, creating storylines for over 150 clients using internal and third party tools to support analysis. He developed and wrote in-depth reports to demonstrate his mastery of the subject matter, including understanding the **macroeconomic and political/regulatory factors** affecting technology adoption and diffusion.

He has also led teams at companies such as Eaton, Airbus and Siemens, where he gained valuable account management and supply chain experience. He is particularly noted for continually exceeding expectations by **building valuable customer relationships** and **working seamlessly with people at all levels of an organization**, including stakeholders, management, team members and customers. His data-driven approach and ability to develop innovative and scalable solutions to industry challenges have made him a prominent leader in his field.



Mr. Arens, Manuel

- Global Procurement Manager at Google, Mountain View, United States
- Senior Manager, B2B Analytics and Technology, Google, United States
- Sales Director at Google, Ireland
- Senior Industry Analyst at Google, Germany
- Accounts Manager at Google, Ireland
- Accounts Payable at Eaton, United Kingdom
- Supply Chain Manager at Airbus, Germany

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International Guest Director

Andrea La Sala is an experienced Marketing executive whose projects have had a significant impact on the Fashion environment. Throughout his successful career he has developed different tasks related to Product, Merchandising and Communication. All of this linked to prestigious brands such as Giorgio Armani, Dolce&Gabbana, Calvin Klein, among others.

The results of this high-profile international executive have been linked to his proven ability to synthesize information in clear frameworks and execute concrete actions aligned to specific business objectives. In addition, he is recognized for his proactivity and adaptability to fast-paced work rhythms. To all this, this expert adds a strong commercial awareness,, market vision and a genuine passion for products.

As Global Brand and Merchandising Director at Giorgio Armani, he has overseen a variety of Marketing strategies for apparel and accessories. His tactics have also focused on the retail environment and consumer needs and behavior. In this role, La Sala has also been responsible for shaping the commercialization of products in different markets, acting as team leader in the Design, Communication and Sales departments..

Furthermore, in companies such as Calvin Klein or Gruppo Coin, he has undertaken projects to boost the structure, and development of different collections. In turn, he has been in charge of creating effective calendars for buying and selling campaigns.

He has also been in charge of the terms, costs, processes and delivery times of different operations.

These experiences have made Andrea La Sala one of the main and most qualified corporate leaders in Fashion and Luxury. A high managerial capacity with which he has managed to effectively implement the positive positioning of different brands and redefine their key performance indicators (KPIs).



Mr. La Sala, Andrea

- Global Brand & Merchandising Director of Armani Exchange at Giorgio Armani, Milan, Italy
- Merchandising Director at Calvin Klein
- Brand Manager at Gruppo Coin
- Brand Manager at Dolce&Gabbana
- Brand Manager at Sergio Tacchini S.p.A.
- Market Analyst at Fastweb
- Degree in Business and Economics from the University of Eastern Piedmont

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International Guest Director

Mick Gram is synonymous with innovation and excellence in the field of **Business Intelligence** internationally. His successful career is linked to leadership positions in multinationals such as **Walmart** and **Red Bull**. Likewise, this expert stands out for his vision to **identify emerging technologies** that, in the long term, achieve an everlasting impact in the corporate environment.

On the other hand, the executive is considered a **pioneer** in the **use of data visualization techniques** that simplified complex sets, making them accessible and facilitating decision-making. This ability became the pillar of his professional profile, transforming him into a desired asset for many organizations that bet on **gathering information** and **generating concrete actions** from them.

One of his most outstanding projects in recent years has been the **Walmart Data Café platform**, the largest of its kind in the world that is anchored in the **cloud** aimed at **Big Data** analysis. In addition, he has held the position of **Director of Business Intelligence** at **Red Bull**, covering areas such as **Sales, Distribution, Marketing and Supply Chain Operations**. His team was recently recognized for its constant innovation regarding the use of Walmart Luminare's new API for Shopper and Channel insights.

As for his training, the executive has several Masters and postgraduate studies at prestigious centers such as the **University of Berkeley**, in the United States, and the **University of Copenhagen**, in Denmark. Through this continuous updating, the expert has attained cutting-edge skill. Because of this, he has come to be considered a **born leader** of the new **global economy**, centered on the drive for data and its infinite possibilities.



Mr. Gram, Mick

- ♦ Director of Business Intelligence and Analytics at Red Bull, Los Angeles, United States
- ♦ Business Intelligence Solutions Architect for Walmart Data Café
- ♦ Independent Business Intelligence and Data Science Consultant
- ♦ Director of Business Intelligence at Capgemini
- ♦ Chief Analyst at Nordea
- ♦ Senior Business Intelligence Consultant at SAS
- ♦ Executive Education in AI and Machine Learning at UC Berkeley College of Engineering
- ♦ Executive MBA in e-Commerce at the University of Copenhagen
- ♦ Bachelor's and Master's Degree in Mathematics and Statistics at the University of Copenhagen

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International Guest Director

Scott Stevenson is a distinguished expert in the **Digital Marketing** sector who, for more than 19 years, has been linked to one of the most powerful companies in the entertainment industry, **Warner Bros. Discovery**. In this role, he has played a fundamental role in **overseeing logistics and creative workflows** across various digital platforms, including social media, search, display and linear media.

This executive's leadership has been crucial in driving in **production strategies in paid media**, resulting in a **marked improvement** which has resulted in **company's conversion rates**. At the same time, he has assumed other roles, such as Director of Marketing Services and Traffic Manager at the same multinational during his former management.

Stevenson has also been involved in the global distribution of video games and **digital property campaigns**. He was also responsible for introducing operational strategies related to the formation, completion and delivery of sound and image content for **television commercials and trailers**.

In addition, he holds a Bachelor's degree in Telecommunications from the University of Florida and a Master's Degree in Creative Writing from the University of California, which demonstrates his proficiency in **communication and storytelling**. In addition, he has participated at Harvard University's School of Professional Development in cutting-edge programs on the use of **Artificial Intelligence in business**. Therefore, his professional profile stands as one of the most relevant in the current field of **Marketing and Digital Media**.



Mr. Stevenson, Scott

- Director of Digital Marketing at Warner Bros. Discovery, Burbank, United States
- Traffic Manager at Warner Bros. Entertainment
- Master's Degree in Creative Writing from the University of California
- Bachelor's Degree in Telecommunications from the University of Florida

“

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International Guest Director

Awarded with the "International Content Marketing Awards" for her creativity, leadership and quality of her informative contents, Wendy Thole-Muir is a recognized **Communication Director** highly specialized in the field of **Reputation Management**.

In this sense, she has developed a solid professional career of more than two decades in this field, which has led her to be part of prestigious international reference entities such as **Coca-Cola**. Her role involves the supervision and management of corporate communication, as well as the control of the organizational image. Among her main contributions, she has led the implementation of the Yammer **internal interaction platform**. Thanks to this, employees increased their commitment to the brand and created a community that significantly improved the transmission of information.

On the other hand, she has been in charge of managing the communication of the companies' **strategic investments** in different African countries. An example of this is that she has managed dialogues around significant investments in Kenya, demonstrating the commitment of the entities to the economic and social development of the country. At the same time, she has achieved numerous **recognitions** for her ability to manage the perception of the firms in all the markets in which it operates. In this way, she has ensured that companies maintain a high profile and consumers associate them with high quality.

In addition, in her firm commitment to excellence, she has actively participated in renowned global **Congresses and Symposiums** with the objective of helping information professionals to stay at the forefront of the most sophisticated techniques to **develop successful strategic communication plans**. In this way, she has helped numerous experts to anticipate institutional crisis situations and to manage adverse events in an effective manner.



Ms. Thole-Muir, Wendy

- ♦ Director of Strategic Communications and Corporate Reputation at Coca-Cola, South Africa
- ♦ Head of Corporate Reputation and Communications at ABI at SABMiller de Lovania, Belgium
- ♦ Communications Consultant at ABI, Belgium
- ♦ Reputation and Communications Consultant at Third Door in Gauteng, South Africa
- ♦ Master's Degree in Social Behavioral Studies, University of South Africa
- ♦ Master's Degree in Sociology and Psychology, University of South Africa
- ♦ Bachelor of Arts in Political Science and Industrial Sociology from the University of KwaZulu-Natal, South Africa
- ♦ Bachelor of Arts in Psychology from the University of South Africa

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Management



Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometheus Global Solutions
- CTO at Korporate Technologies
- CTO at AI Shepherds GmbH
- Consultant and Strategic Business Advisor at Alliance Medical
- Director of Design and Development at DocPath
- Doctorate in Psychology from the University of Castilla La Mancha
- Doctorate in Economics, Business and Finance from the Camilo José Cela University
- Doctorate in Psychology from University of Castilla La Mancha
- Master's Degree in Executive MBA from the Isabel I University
- Master's Degree in Sales and Marketing Management from the Isabel I University
- Expert Master's Degree in Big Data by Hadoop Training
- Master's Degree in Advanced Information Technologies from the University of Castilla La Mancha
- Member of: SMILE Research Group



Mr. Castellanos Herreros, Ricardo

- ♦ Chief Technology Officer at OWQLO
- ♦ Specialist in Computer Systems Engineering and Machine Learning Engineer
- ♦ Freelance Technical Consultant
- ♦ Mobile Applications Developer for eDreams, Fnac, Air Europa, Bankia, Cetelem, Banco Santander, Santillana, Groupón and Grupo Planeta
- ♦ Web Developer for Openbank and Banco Santander
- ♦ Technical Engineer in Computer Systems from the University of Castilla la Mancha.

09

Certificate

The Advanced Master's Degree MBA in Artificial Intelligence in Computer Programming guarantees students, in addition to the most rigorous and up-to-date education, access to a diploma for the Advanced Master's Degree issued by TECH Global University.



The image features two black graduation caps (mortarboards) against a bright blue sky with light, wispy clouds. One cap is in the foreground on the left, and another is slightly behind it on the right. The background is split diagonally by a white and blue geometric shape.

“

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