

Advanced Master's Degree Big Data Management





Advanced Master's Degree Big Data Management

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

Website: www.techtute.com/us/information-technology/advanced-master-degree/advanced-master-degree-big-data-management

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01

Introduction to the Program

The area of Big Data is a specialization that has exhaustive techniques, tools, environments and principles that govern this discipline. This panorama gives them the opportunity to design more accurate and effective business strategies. In this context, the role of the data analyst has become a key piece for any organization, with Big Data experts being especially in demand. Aware of these needs, TECH has designed the Big Data Management program. This curriculum offers the student a comprehensive approach that combines the essential fundamentals of Big Data with additional competencies that guarantee an outstanding preparation to excel in the competitive world of advanced analytics.



“

TECH offers you the best knowledge in Big Data to become your passport to a career full of exciting opportunities and challenges”

The Big Data discipline has emerged as a strategic solution, enabling organizations to transform complex data into valuable opportunities. This discipline has been characterized by its volume, variety and velocity, changing the way companies operate, make decisions and compete in the global marketplace. However, making the most of this resource requires experts who understand how to collect and analyze large amounts of information.

Aware of this need, TECH's Advanced Master's Degree in Big Data Management presents itself as a gateway to this fascinating and dynamic field. Designed to specialize the professionals who will lead the digital revolution, this program combines advanced technical knowledge with comprehensive training, covering both the study of cutting-edge platforms, algorithms and tools and solid strategic preparation. Today, virtually every interaction in the digital environment generates data, whether through online shopping, the use of social networks or sensors in devices connected to the Internet of Things. Therefore, the knowledge and management of Big Data have become key aspects for all business sectors.

This Advanced Master's Degree includes in its syllabus the study of the most advanced platforms, algorithms and tools in the sector, all taught through the innovative Relearning learning method, adapted to the needs and pace of study of each student. Best of all, the program is completely online and accessible from any device, which offers the flexibility to adjust schedules and combine work responsibilities, without leaving aside an active family life, while advancing in professional specialization.

This **Advanced Master's Degree in Big Data Management** contains the most complete and up-to-date program on the market. Its most notable features are:

- ♦ Practical cases presented by experts in IT
- ♦ 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 self-assessment can be used to improve learning
- ♦ Special emphasis on innovative methodologies in Big Data Management
- ♦ 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



With TECH, boost your professional profile with specialized knowledge that will make you stand out in any industry"

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Master the future of data analysis by learning 100% online with the Relearning method, the most innovative and effective on the market”

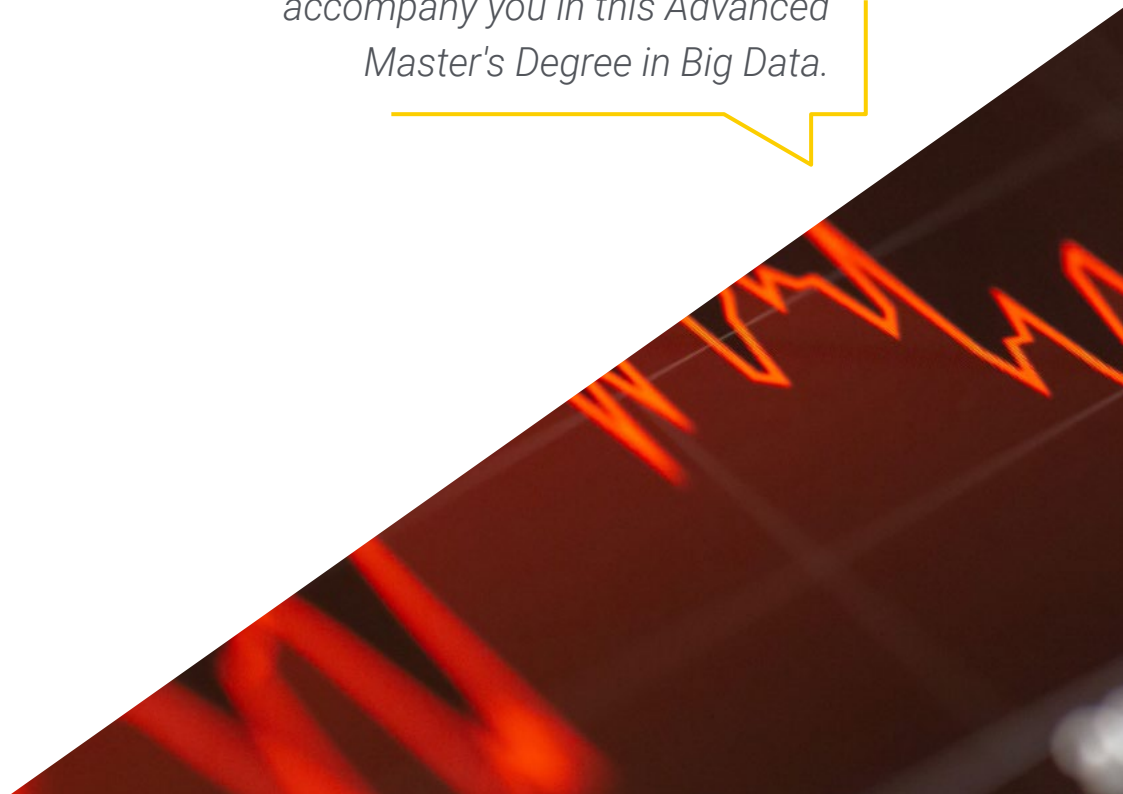
Its teaching staff includes professionals from the field of journalism, who bring to this program the experience of their work, as well as renowned specialists from reference societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide an immersive learning experience designed to prepare 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 the latest teaching methodology, build the future you want in a field where the demand for talent continues to grow.

Expand your ability to innovate in the world with the best faculty that will accompany you in this Advanced Master's Degree in Big Data.



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
Mejor universidad
online del mundo

Plan
de estudios
más completo

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.

Profesorado
TOP
Internacional



La metodología
más eficaz

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 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.

nº1
Mundial
Mayor universidad
online del mundo

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

The main review websites have positioned TECH as the best rated university in the world by its students. These review portals, recognized for their reliability and prestige due to the rigorous verification and validation of the authenticity of each opinion, have given TECH highly favorable ratings. These ratings place TECH as the absolute international university reference.



03 Syllabus

The Advanced Master's Degree in Big Data Management offers comprehensive knowledge ranging from the fundamentals of Big Data to the most advanced strategies for its application in the business environment. Throughout the program, graduates will develop key skills in areas of high labor demand, giving them the ability to analyze and transform data into valuable assets. In addition, the program is designed for professionals to adapt to the constant technological evolutions, preparing them to lead data management in various sectors.



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With TECH's methodology, learn how to decipher the secrets behind the data and lead the digital revolution”

Module 1. Data Analysis in a Business Organization

- 1.1. Business Analysis
 - 1.1.1. Business Analysis
 - 1.1.2. Data Structure
 - 1.1.3. Phases and Elements
- 1.2. Data Analysis in the Business
 - 1.2.1. Scorecards and KPIs by Departments
 - 1.2.2. Operational, Tactical and Strategic Reports
 - 1.2.3. Data Analytics Applied to Each Department
 - 1.2.3.1. Marketing and Communication
 - 1.2.3.2. Commercial
 - 1.2.3.3. Customer Service
 - 1.2.3.4. Purchasing
 - 1.2.3.5. Administration
 - 1.2.3.6. Human Resources
 - 1.2.3.7. Production
 - 1.2.3.8. IT
- 1.3. Marketing and Communication
 - 1.3.1. KPIs to be Measured, Applications and Benefits
 - 1.3.2. Marketing Systems and Data Warehouse
 - 1.3.3. Implementation of a Data Analytics Marketing Framework
 - 1.3.4. Marketing and Communication Plan
 - 1.3.5. Strategies, Prediction and Campaign Management
- 1.4. Commerce and Sales
 - 1.4.1. Contributions of Data Analytics in the Commercial Area
 - 1.4.2. Needs of the Sales Department
 - 1.4.3. Market Research
- 1.5. Customer Service
 - 1.5.1. Loyalty
 - 1.5.2. Personal Coaching and Emotional Intelligence
 - 1.5.3. Customer Satisfaction

- 1.6. Purchasing
 - 1.6.1. Data Analysis for Market Research
 - 1.6.2. Data Analysis for Competency Research
 - 1.6.3. Other Applications
- 1.7. Administration
 - 1.7.1. Needs of the Administration Department
 - 1.7.2. Data Warehouse and Financial Risk Analysis
 - 1.7.3. Data Warehouse and Credit Risk Analysis
- 1.8. Human Resources
 - 1.8.1. Human Resources and Benefits of Data Analytics
 - 1.8.2. Data Analytics Tools in the HR Department. Resources
 - 1.8.3. Data Analytics Application in the HR Department. Resources
- 1.9. Production
 - 1.9.1. Data Analysis in a Production Department
 - 1.9.2. Applications
 - 1.9.3. Benefits
- 1.10. IT
 - 1.10.1. IT Department
 - 1.10.2. Data Analysis and Digital Transformation
 - 1.10.3. Innovation and Productivity

Module 2. Data Management, Data Manipulation and Information Management for Data Science

- 2.1. Statistics. Variables, Indices and Ratios
 - 2.1.1. Statistics
 - 2.1.2. Statistical Dimensions
 - 2.1.3. Variables, Indices and Ratios
- 2.2. Type of Data
 - 2.2.1. Qualitative
 - 2.2.2. Quantitative
 - 2.2.3. Characterization and Categories

- 2.3. Data Knowledge from the Measurements
 - 2.3.1. Centralization Measurements
 - 2.3.2. Measures of Dispersion
 - 2.3.3. Correlation
- 2.4. Data Knowledge from the Graphs
 - 2.4.1. Visualization According to Type of Data
 - 2.4.2. Interpretation of Graphic Information
 - 2.4.3. Customization of Graphics with
- 2.5. Probability
 - 2.5.1. Probability
 - 2.5.2. Function of Probability
 - 2.5.3. Distributions
- 2.6. Data Collection
 - 2.6.1. Methodology of Data Collection
 - 2.6.2. Data Collection Tools
 - 2.6.3. Data Collection Channels
- 2.7. Data Cleaning
 - 2.7.1. Phases of Data Cleansing
 - 2.7.2. Data Quality
 - 2.7.3. Data Manipulation (with R)
- 2.8. Data Analysis, Interpretation and Evaluation of Results
 - 2.8.1. Statistical Measures
 - 2.8.2. Relationship Indexes
 - 2.8.3. Data Mining
- 2.9. Data Warehouse
 - 2.9.1. Components
 - 2.9.2. Design
- 2.10. Data Availability
 - 2.10.1. Access
 - 2.10.2. Uses
 - 2.10.3. Security

Module 3. Devices and IoT Platforms as a Base for Data Science

- 3.1. *Internet of Things*
 - 3.1.1. Internet of the Future, Internet of Things
 - 3.1.2. The Industrial Internet Consortium
- 3.2. Architecture of Reference
 - 3.2.1. The Architecture of Reference
 - 3.2.2. Layers
 - 3.2.3. Components
- 3.3. Sensors and IoT Devices
 - 3.3.1. Principal Components
 - 3.3.2. Sensors and Actuators
- 3.4. Communications and Protocols
 - 3.4.1. Protocols. OSI Model
 - 3.4.2. Communication Technologies
- 3.5. Cloud Platforms for IoT and IIoT
 - 3.5.1. General Purpose Platforms
 - 3.5.2. Industrial Platforms
 - 3.5.3. Open Code Platforms
- 3.6. Data Management on IoT Platforms
 - 3.6.1. Data Management Mechanisms. Open Data
 - 3.6.2. Data Exchange and Visualization
- 3.7. IoT Security
 - 3.7.1. Requirements and Security Areas
 - 3.7.2. Security Strategies in IIoT
- 3.8. Applications of IoT
 - 3.8.1. Intelligent Cities
 - 3.8.2. Health and Fitness
 - 3.8.3. Smart Home
 - 3.8.4. Other Applications

- 3.9. Applications of IIoT
 - 3.9.1. Fabrication
 - 3.9.2. Transport
 - 3.9.3. Energy
 - 3.9.4. Agriculture and Livestock
 - 3.9.5. Other Sectors
- 3.10. Industry 4.0
 - 3.10.1. IoRT (Internet of Robotics Things)
 - 3.10.2. 3D Additive Manufacturing
 - 3.10.3. *Big Data Analytics*

Module 4. Graphical Representation of Data Analysis

- 4.1. Exploratory Analysis
 - 4.1.1. Representation for Information Analysis
 - 4.1.2. The Value of Graphical Representation
 - 4.1.3. New Paradigms of Graphical Representation
- 4.2. Optimization for Data Science
 - 4.2.1. Color Range and Design
 - 4.2.2. Gestalt in Graphic Representation
 - 4.2.3. Errors to Avoid and Advice
- 4.3. Basic Data Sources
 - 4.3.1. For Quality Representation
 - 4.3.2. For Quantity Representation
 - 4.3.3. For Time Representation
- 4.4. Complex Data Sources
 - 4.4.1. Files, Listings and Databases
 - 4.4.2. Open Data
 - 4.4.3. Continuous Data Generation
- 4.5. Types of Graphs
 - 4.5.1. Basic Representations
 - 4.5.2. Block Representation
 - 4.5.3. Representation for Dispersion Analysis
 - 4.5.4. Circular Representations
 - 4.5.5. Bubble Representations
 - 4.5.6. Geographical Representations

- 4.6. Types of Visualization
 - 4.6.1. Comparative and Relational
 - 4.6.2. Distribution
 - 4.6.3. Hierarchical
- 4.7. Report Design with Graphic Representation
 - 4.7.1. Application of Graphs in Marketing Reports
 - 4.7.2. Application of Graphs in Scorecards and KPIs
 - 4.7.3. Application of Graphs in Strategic Plans
 - 4.7.4. Other Uses: Science, Health, Business
- 4.8. Graphic Narration
 - 4.8.1. Graphic Narration
 - 4.8.2. Evolution
 - 4.8.3. Uses
- 4.9. Tools Oriented Towards Visualization
 - 4.9.1. Advanced Tools
 - 4.9.2. Online Software
 - 4.9.3. *Open Source*
- 4.10. New Technologies in Data Visualization
 - 4.10.1. Systems for Virtualization of Reality
 - 4.10.2. Reality Enhancement and Improvement Systems
 - 4.10.3. Intelligent Systems

Module 5. Data Science Tools

- 5.1. Data Science
 - 5.1.1. Data Science
 - 5.1.2. Advanced Tools for Data Scientists
- 5.2. Data, Information and Knowledge
 - 5.2.1. Data, Information and Knowledge
 - 5.2.2. Types of Data
 - 5.2.3. Data Sources
- 5.3. From Data to Information
 - 5.3.1. Data Analysis
 - 5.3.2. Types of Analysis
 - 5.3.3. Extraction of Information from a Dataset

- 5.4. Extraction of Information Through Visualization
 - 5.4.1. Visualization as an Analysis Tool
 - 5.4.2. Visualization Methods
 - 5.4.3. Visualization of a Data Set
- 5.5. Data Quality
 - 5.5.1. Quality Data
 - 5.5.2. Data Cleaning
 - 5.5.3. Basic Data Pre-Processing
- 5.6. *Dataset*
 - 5.6.1. Dataset Enrichment
 - 5.6.2. The Curse of Dimensionality
 - 5.6.3. Modification of Our Data Set
- 5.7. Unbalance
 - 5.7.1. Classes of Unbalance
 - 5.7.2. Unbalance Mitigation Techniques
 - 5.7.3. Balancing a Dataset
- 5.8. Unsupervised Models
 - 5.8.1. Unsupervised Model
 - 5.8.2. Methods
 - 5.8.3. Classification with Unsupervised Models
- 5.9. Supervised Models
 - 5.9.1. Supervised Model
 - 5.9.2. Methods
 - 5.9.3. Classification with Supervised Models
- 5.10. Tools and Good Practices
 - 5.10.1. Good Practices for Data Scientists
 - 5.10.2. The Best Model
 - 5.10.3. Useful Tools

Module 6. Data Mining. Selection, Pre-Processing and Transformation

- 6.1. Statistical Inference
 - 6.1.1. Descriptive Statistics vs. Statistical Inference
 - 6.1.2. Parametric Procedures
 - 6.1.3. Non-Parametric Procedures
- 6.2. Exploratory Analysis
 - 6.2.1. Descriptive Analysis
 - 6.2.2. Visualization
 - 6.2.3. Data Preparation
- 6.3. Data Preparation
 - 6.3.1. Integration and Data Cleaning
 - 6.3.2. Normalization of Data
 - 6.3.3. Transforming Attributes
- 6.4. Missing Values
 - 6.4.1. Treatment of Missing Values
 - 6.4.2. Maximum Likelihood Imputation Methods
 - 6.4.3. Missing Value Imputation Using Machine Learning
- 6.5. Noise in the Data
 - 6.5.1. Noise Classes and Attributes
 - 6.5.2. Noise Filtering
 - 6.5.3. The Effect of Noise
- 6.6. The Curse of Dimensionality
 - 6.6.1. *Oversampling*
 - 6.6.2. *Undersampling*
 - 6.6.3. Multidimensional Data Reduction
- 6.7. From Continuous to Discrete Attributes
 - 6.7.1. Continuous Data vs. Discrete Data
 - 6.7.2. Discretization Process
- 6.8. The Data
 - 6.8.1. Data Selection
 - 6.8.2. Prospects and Selection Criteria
 - 6.8.3. Selection Methods

- 6.9. Instance Selection
 - 6.9.1. Methods for Instance Selection
 - 6.9.2. Prototype Selection
 - 6.9.3. Advanced Methods for Instance Selection
- 6.10. Data Pre-Processing in Big Data Environments
 - 6.10.1. *Big Data*
 - 6.10.2. Classical Versus Massive Pre-Processing
 - 6.10.3. *Smart Data*

Module 7. Predictability and Analysis of Stochastic Phenomena

- 7.1. Time Series
 - 7.1.1. Time Series
 - 7.1.2. Utility and Applicability
 - 7.1.3. Related Case Studies
- 7.2. Time Series
 - 7.2.1. Seasonal Trend of TS
 - 7.2.2. Typical Variations
 - 7.2.3. Waste Analysis
- 7.3. Typology
 - 7.3.1. Stationary
 - 7.3.2. Non-Stationary
 - 7.3.3. Transformations and Settings
- 7.4. Time Series Schemes
 - 7.4.1. Additive Scheme (Model)
 - 7.4.2. Multiplicative Scheme (Model)
 - 7.4.3. Procedures to Determine the Type of Model
- 7.5. Basic Forecasting Methods
 - 7.5.1. Media
 - 7.5.2. *Naïve*
 - 7.5.3. Seasonal Naivety
 - 7.5.4. Method Comparison

- 7.6. Waste Analysis
 - 7.6.1. Autocorrelation
 - 7.6.2. ACF of Waste
 - 7.6.3. Correlation Test
- 7.7. Regression in the Context of Time Series
 - 7.7.1. ANOVA
 - 7.7.2. Fundamentals
 - 7.7.3. Practical Applications
- 7.8. Predictive Methods of Time Series
 - 7.8.1. ARIMA
 - 7.8.2. Exponential Smoothing
- 7.9. Manipulation and Analysis of Time Series with R
 - 7.9.1. Data Preparation
 - 7.9.2. Identification of Patterns
 - 7.9.3. Model Analysis
 - 7.9.4. Prediction
- 7.10. Combined Graphical Analysis with R
 - 7.10.1. Normal Situations
 - 7.10.2. Practical Application for the Resolution of Simple Problems
 - 7.10.3. Practical Application for the Resolution of Advanced Problems

Module 8. Design and Development of Intelligent Systems

- 8.1. Data Pre-Processing
 - 8.1.1. Data Pre-Processing
 - 8.1.2. Data Transformation
 - 8.1.3. Data Mining
- 8.2. Machine Learning
 - 8.2.1. Supervised and Unsupervised Learning
 - 8.2.2. Reinforcement Learning
 - 8.2.3. Other Learning Paradigms
- 8.3. Classification Algorithms
 - 8.3.1. Inductive Machine Learning
 - 8.3.2. SVM and KNN
 - 8.3.3. Metrics and Scores for Ranking

- 8.4. Regression Algorithms
 - 8.4.1. Lineal Regression, Logistical Regression and Non-Linear Models
 - 8.4.2. Time Series
 - 8.4.3. Metrics and Scores for Regression
- 8.5. Clustering Algorithms
 - 8.5.1. Hierarchical Clustering Techniques
 - 8.5.2. Partitional Clustering Techniques
 - 8.5.3. Metrics and Scores for Clustering
- 8.6. Association Rules Techniques
 - 8.6.1. Methods for Rule Extraction
 - 8.6.2. Metrics and Scores for Association Rule Algorithms
- 8.7. Advanced Classification Techniques. Multiclassifiers
 - 8.7.1. Bagging Algorithms
 - 8.7.2. Random Forests Sorter
 - 8.7.3. Boosting for Decision Trees
- 8.8. Probabilistic Graphical Models
 - 8.8.1. Probabilistic Models
 - 8.8.2. Bayesian Networks. Properties, Representation and Parameterization
 - 8.8.3. Other Probabilistic Graphical Models
- 8.9. Neural Networks
 - 8.9.1. Machine Learning with Artificial Neural Networks
 - 8.9.2. Feedforward Networks
- 8.10. Deep Learning
 - 8.10.1. Deep Feedforward Networks
 - 8.10.2. Convolutional Neural Networks and Sequence Models
 - 8.10.3. Tools for Implementing Deep Neural Networks

Module 9. Architecture and Systems for Intensive Use of Data

- 9.1. Non-Functional Requirements. Pillars of Big Data Applications
 - 9.1.1. Reliability
 - 9.1.2. Adaptation
 - 9.1.3. Maintainability
- 9.2. Data Models
 - 9.2.1. Relational Model
 - 9.2.2. Document Model
 - 9.2.3. Graph Type Data Model
- 9.3. Databases. Storage Management and Data Recovery
 - 9.3.1. Hash Indexes
 - 9.3.2. Structured Log Storage
 - 9.3.3. B Trees
- 9.4. Data Coding Formats
 - 9.4.1. Language-Specific Formats
 - 9.4.2. Standardized Formats
 - 9.4.3. Binary Coding Formats
 - 9.4.4. Data Stream Between Processes
- 9.5. Replication
 - 9.5.1. Objectives of Replication
 - 9.5.2. Replication Models
 - 9.5.3. Problems with Replication
- 9.6. Distributed Transactions
 - 9.6.1. Transaction
 - 9.6.2. Protocols for Distributed Transactions
 - 9.6.3. Serializable Transactions
- 9.7. Partitions
 - 9.7.1. Forms of Partitioning
 - 9.7.2. Secondary Index Interaction and Partitioning
 - 9.7.3. Partition Rebalancing
- 9.8. Offline Data Processing
 - 9.8.1. Batch Processing
 - 9.8.2. Distributed File Systems
 - 9.8.3. MapReduce
- 9.9. Data Processing in Real Time
 - 9.9.1. Types of Message Brokers
 - 9.9.2. Representation of Databases as Data Streams
 - 9.9.3. Data Stream Processing

- 9.10. Practical Applications in Business
 - 9.10.1. Consistency in Readings
 - 9.10.2. Holistic Focus of Data
 - 9.10.3. Scaling of a Distributed Service

Module 10. Practical Application of Data Science in Business Sectors

- 10.1. Health Sector
 - 10.1.1. Implications of AI and Data Analysis in the Health Sector
 - 10.1.2. Opportunities and Challenges
- 10.2. Risks and Trends in the Healthcare Sector
 - 10.2.1. Use of the Health Sector
 - 10.2.2. Potential Risks Related to the Use of AI
- 10.3. Financial Services
 - 10.3.1. Implications of AI and Data Analysis in Financial Services Sector
 - 10.3.2. Use in the Financial Services
 - 10.3.3. Potential Risks Related to the Use of AI
- 10.4. Retail
 - 10.4.1. Implications of AI and Data Analytics in the Retail Sector
 - 10.4.2. Use in Retail
 - 10.4.3. Potential Risks Related to the Use of AI
- 10.5. Industry 4.0
 - 10.5.1. Implications of AI and Data Analysis in Industry 4.0
 - 10.5.2. Use in the 4.0 Industry
- 10.6. Risks and Trends in the Industry 4.0
 - 10.6.1. Potential Risks Related to the Use of AI
- 10.7. Public Administration
 - 10.7.1. Implications of AI and Data Analysis in Public Administration
 - 10.7.2. Use in Public Administration
 - 10.7.3. Potential Risks Related to the Use of AI
- 10.8. Educational
 - 10.8.1. Implications of AI and Data Analysis in Education
 - 10.8.2. Potential Risks Related to the Use of AI

- 10.9. Forestry and Agriculture
 - 10.9.1. Implications of AI and Data Analysis in Forestry and Agriculture
 - 10.9.2. Use in Forestry and Agriculture
 - 10.9.3. Potential Risks Related to the Use of AI
- 10.10. Human Resources
 - 10.10.1. Implications of AI and Data Analysis in Human Resources
 - 10.10.2. Practical Applications in the Business World
 - 10.10.3. Potential Risks Related to the Use of AI

Module 11. Visual Analytics in the Social and Technological Context

- 11.1. Technological Waves in Different Societies. Towards a 'Data Society'
- 11.2. Globalization. Geopolitical and Social World Context
- 11.3. VUCA Environment. Always Living in the Past
- 11.4. Knowing New Technologies: 5G and IoT
- 11.5. Knowing New Technologies: Cloud and Edge Computing
- 11.6. *Critical Thinking in Visual Analytics*
- 11.7. The Know-mads. Nomads Among Data
- 11.8. Learning to Be an Entrepreneur in Visual Analytics
- 11.9. Anticipation Theories Applied to Visual Analytics
- 11.10. The New Business Environment. Digital Transformation

Module 12. Data Analysis and Interpretation

- 12.1. Introduction to Statistics
- 12.2. Measures Applicable to the Processing of Information
- 12.3. Statistical Correlation
- 12.4. Theory of Conditional Probability
- 12.5. Random Variable and Probability Distribution
- 12.6. Bayesian Inference
- 12.7. Sample Theory
- 12.8. Confidence Intervals
- 12.9. Hypothesis Testing
- 12.10. Regression Analysis

Module 13. Data and AI Analysis Techniques

- 13.1. Predictive Analytics
- 13.2. Evaluation Techniques and Model Selection
- 13.3. Lineal Optimization Techniques
- 13.4. Montecarlo Simulations
- 13.5. Scenario Analysis
- 13.6. Machine Learning Techniques
- 13.7. Web Analytics
- 13.8. Text Mining Techniques
- 13.9. Methods of Natural Language Processing (NLP)
- 13.10. Social Network Analytics

Module 14. Data Analysis Tools

- 14.1. Data Science R Environment
- 14.2. Data Science Python Environment
- 14.3. Static and Statistical Graphs
- 14.4. Data Processing in Different Formats and Different Sources
- 14.5. Data Cleaning and Preparation
- 14.6. Exploratory Studies
- 14.7. Decision Trees
- 14.8. Classification and Association Rules
- 14.9. Neural Networks
- 14.10. *Deep Learning*

Module 15. Database Management and Data Parallelization Systems

- 15.1. Conventional Databases
- 15.2. Non-Conventional Databases
- 15.3. Cloud Computing: Data Distribution Management
- 15.4. Tools for the Ingestion of Large Volumes of Data
- 15.5. Types of Parallels
- 15.6. Data Processing in Streaming and Real Time
- 15.7. Parallel Processing: Hadoop

- 15.8. Parallel Processing: Spark
- 15.9. Apache Kafka
 - 15.9.1. Introduction to Apache Kafka
 - 15.9.2. Architecture
 - 15.9.3. Data Structure
 - 15.9.4. Kafka APIs
 - 15.9.5. Case Studies
- 15.10. Cloudera Impala

Module 16. Data-Driven Soft Skills in Strategic Management in Visual Analytics

- 16.1. *Drive Profile for Data-Driven*
- 16.2. Advanced Management Skills in Data-Driven Organizations
- 16.3. Using Data to Improve Strategic Communication Performance
- 16.4. Emotional Intelligence Applied to Management in Visual Analytics
- 16.5. Effective Presentations
- 16.6. Improving Performance Through Motivational Management
- 16.7. Leadership in Data-Driven Organizations
- 16.8. Digital Talent in Data-Driven Organizations
- 16.9. Data-Driven Agile Organization I
- 16.10. Data-Driven Agile Organization II

Module 17. Strategic Management of Visual Analytics and Big Data Projects

- 17.1. Introduction to Strategic Project Management
- 17.2. Best Practices in the Description of Big Data Processes
- 17.3. Kimball Methodology
- 17.4. SQlD Methodology
 - 17.4.1. Introduction to SQlD Methodology to Approach Big Data Projects
 - 17.4.2. Phase I. Sources
 - 17.4.3. Phase II. *Data Quality*
 - 17.4.4. Phase III. *Impossible Questions*
 - 17.4.5. Phase IV. *Discovering*
 - 17.4.6. Best Practices in the Application of SQlD in Big Data Projects

- 17.5. Legal Aspects in the World of Data
- 17.6. Privacy in Big Data
- 17.7. Cyber Security in Big Data
- 17.8. Identification and De-Identification with Large Volumes of Data
- 17.9. Data Ethics I
- 17.10. Data Ethics II

Module 18. Client Analysis. Applying Data Intelligence to Marketing

- 18.1. Concepts of Marketing. Strategic Marketing
- 18.2. Relational Marketing
- 18.3. CRM as an Organizational Hub for Customer Analysis
- 18.4. Web Technologies
- 18.5. Web Data Sources
- 18.6. Acquisition of Web Data
- 18.7. Tools for the Extraction of Data from the Web
- 18.8. Semantic Web
- 18.9. OSINT: Open Source Intelligence
- 18.10. Master Lead or How to Improve Sales Conversion Using Big Data

Module 19. Interactive Visualization of Data

- 19.1. Introduction to the Art of Making Data Visible
- 19.2. How to Perform Storytelling with Data
- 19.3. Data Representation
- 19.4. Scalability of Visual Representations
- 19.5. Visual Analytics vs. Information Visualization. Understanding That It Is Not The Same
- 19.6. Visual Analysis Process (Keim)
- 19.7. Strategic, Operative and Managerial Reports
- 19.8. Types of Graphs and Their Application
- 19.9. Interpretation of Reports and Graphs. Playing the Role of the Receiver
- 19.10. Evaluation of Visual Analytics Systems



Module 20. Visualization Tools

- 20.1. Introduction to Data Visualization Tools
- 20.2. Many Eyes
- 20.3. Google Charts
- 20.4. jQuery
- 20.5. Data-Driven Documents I
- 20.6. Data-Driven Documents II
- 20.7. Matlab
- 20.8. Tableau
- 20.9. SAS Visual Analytics
- 20.10. Microsoft Power BI

“

A comprehensive curriculum that will lead you to master the area of Big Data and become a successful business strategy architect”



04

Teaching Objectives

This Advanced Master's Degree in Big Data Management focuses on training highly qualified professionals to lead and transform large volumes of data into strategic assets for companies. Complementarily, it promotes the focus on data governance, security and privacy, ensuring that future specialists can operate in an ethical and regulated environment. In short, this Advanced Master's Degree aims to prepare leaders capable of integrating Big Data in multiple sectors, contributing to the success and digital transformation of their organizations.



“

Thanks to this academic opportunity that only TECH gives you, transform your career and revolutionize industries and societies”



General Objectives

- ♦ Develop advanced technical skills to design, implement and manage Big Data architectures, including distributed platforms and modern databases
- ♦ Foster a strategic vision of Big Data, focused on transforming data into productive business decisions, optimizing resources and improving the competitiveness of enterprises
- ♦ Train specialists in the integration of new technologies, such as the Internet of Things (IoT) and artificial intelligence, applied to data analysis in key sectors such as marketing, logistics and healthcare
- ♦ Provide expertise in data governance, security and ethics, ensuring that future professionals can manage information responsibly, complying with regulations and protecting privacy



Transform your professional future and achieve the personal success you dream of through this exclusive Advanced Master's Degree"





Specific Objectives

Module 1. Data Analysis in a Business Organization

- ♦ Develop the necessary skills to apply data analytics techniques in the business organization
- ♦ Facilitate strategic decision making and optimizing organizational processes by analyzing large volumes of data

Module 2. Data Management, Data Manipulation and Information Management for Data Science

- ♦ Train in best practices to manage, manipulate and transform data and information
- ♦ Manage the necessary techniques to extract value and generate insights applicable in data science

Module 3. Devices and IoT Platforms as a Base for Data Science

- ♦ Provide an in-depth understanding of IoT devices and associated platforms
- ♦ Delve into how to collect, process and analyze the data generated by these devices to enhance data science applications in various industries

Module 4. Graphical Representation of Data Analysis

- ♦ Teach data visualization and graphical representation techniques, using advanced tools
- ♦ Facilitate the understanding of patterns and trends in complex data sets, improving the communication of results to stakeholders

Module 5. Data Science Tools

- ♦ Train in the use of data science tools such as Python, R, and SQL
- ♦ Be able to efficiently process, analyze, and model large volumes of data

Module 6. Data Mining. Selection, Pre-Processing and Transformation

- ♦ Provide skills to perform data mining
- ♦ Delve into the selection, preprocessing and transformation of data in order to extract valuable patterns and improve data quality for further analysis

Module 7. Predictability and Analysis of Stochastic Phenomena

- ♦ Train in the use of statistical methods and modeling techniques for stochastic phenomena
- ♦ Predict future behaviors in complex and uncertain systems, applying these models in various business contexts

Module 8. Design and Development of Intelligent Systems

- ♦ Develop skills in the design and creation of intelligent systems through the use of artificial intelligence and machine learning algorithms
- ♦ Delve into practical applications in process automation and decision making

Module 9. Architecture and Systems for Intensive Use of Data

- ♦ Train in the creation of architectures and systems capable of handling large volumes of data efficiently
- ♦ Apply technologies such as distributed databases and parallel processing to manage massive data

Module 10. Practical Application of Data Science in Business Sectors

- ♦ Apply data science techniques in various sectors of business activity
- ♦ Optimize processes, improving decision making and developing solutions that add value to organizations

Module 11. Visual Analytics in the Social and Technological Context

- ♦ Apply visual data analysis in social and technological contexts
- ♦ Employ visualization tools to analyze social phenomena and make informed data-driven decisions

Module 12. Data Analysis and Interpretation

- ♦ Train in the analysis and interpretation of data using statistical techniques and advanced analysis tools
- ♦ Draw relevant conclusions and use them for business decision making

Module 13. Data and AI Analysis Techniques

- ♦ Develop skills in advanced data analytics techniques using artificial intelligence
- ♦ Extract patterns and make accurate predictions

Module 14. Data Analysis Tools

- ♦ Train in the use of specific data analytics tools and platforms
- ♦ Analyze the manipulation, visualization and analysis of large volumes of data

Module 15. Database Management and Data Parallelization Systems

- ♦ Manage efficient and scalable databases
- ♦ Master data parallelization techniques to accelerate the processing of large volumes of information

Module 16. Data-Driven Soft Skills in Strategic Management in Visual Analysis

- ♦ Develop data-driven management and leadership skills, applying visual data analysis principles
- ♦ Improve strategic decision making and foster a collaborative, data-driven environment





Module 17. Strategic Management of Visual Analytics and Big Data Projects

- ◆ Train in the management of visual analytics and big data projects, from planning and design to execution and follow-up
- ◆ Ensure that projects meet strategic objectives and add value to the organization

Module 18. Client Analysis. Applying Data Intelligence to Marketing

- ◆ Teach how to use data analytics to understand customer behavior
- ◆ Optimize marketing strategies through segmentation, trend prediction and data-driven offer personalization

Module 19. Interactive Visualization of Data

- ◆ Train in the creation of interactive data visualizations that allow users to explore
- ◆ Better understand data, facilitating decision making through dynamic and engaging visualization tools

Module 20. Visualization Tools

- ◆ Provide the skills to use a variety of data visualization tools, such as Tableau, Power BI and D3.js
- ◆ Create clear and effective visual representations that facilitate the analysis and presentation of complex data

05

Career Opportunities

The Advanced Master's Degree in Big Data Management opens the door to a widerange of career opportunities in key sectors driven by digital transformation. Graduates will be able to lead teams in the implementation of data-driven strategies, optimize business processes and develop innovative solutions in highly competitive global environments. This academic opportunity prepares professionals to successfully face the challenges of today's job market, where strategic data management is key to decision making and business growth.



“

With TECH, gain the knowledge you need to become the leader who guides companies toward more informed and profitable decisions”

Graduate Profile

The graduate of the Advanced Master's Degree in Big Data Management will be a highly qualified professional with advanced skills and techniques in big data platforms. Also, in the design of efficient architectures for information processing. On the other hand, you will be prepared to lead big data projects, make strategic decisions based on data and optimize business processes in a digitized environment. Your approach will enable you to manage multidisciplinary teams and develop innovative solutions that contribute to the success and competitiveness of organizations.

This is a unique opportunity to specialize in a field in demand, with recognized prestige and broad prospects for the future.

- ♦ **Proficiency in Advanced Data Analytics Tools:** Handling of specialized platforms and software for the management and analysis of large volumes of data, such as Hadoop, Spark and visualization tools such as Tableau or Power BI
- ♦ **Ability to Design and Manage Big Data Architectures:** Ability to create scalable and efficient solutions in the processing of massive data, ensuring its availability and security
- ♦ **In-Depth Knowledge of Artificial Intelligence and Machine Learning:** Proficiency in the development of predictive models and machine learning algorithms to extract value from data
- ♦ **Tranversal Leadership Skills:** Ability to lead multidisciplinary teams, communicate effectively with stakeholders and make strategic data-driven decisions





After completing the Advanced Master's Degree, you will be able to apply your knowledge and skills in the following positions:

1. **Data Scientist:** Responsible for designing and applying predictive analytics models, machine learning and advanced statistics to extract valuable insights from large volumes of data
2. **Big Data Architect:** Responsible for designing and maintaining the technological infrastructure that allows for storing, processing and analyzing large volumes of data efficiently
3. **Data Analyst:** Responsible for analyzing the data collected and generating reports or visualizations to support decision making in operational and strategic areas
4. **Business Intelligence Specialist:** Responsible for using data analysis to generate competitive intelligence, enabling the company to make informed decisions and gain strategic advantages in the marketplace
5. **Big Data Consultant:** Provides strategic advice to companies to implement solutions based on big data and improve their processes through data analysis
6. **Business Intelligence (BI) Manager:** Leads the implementation of BI tools and processes to convert data into useful information for business decision making

“

You will obtain a professional profile that will be ready to compete with the best professionals in the market”

06

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”

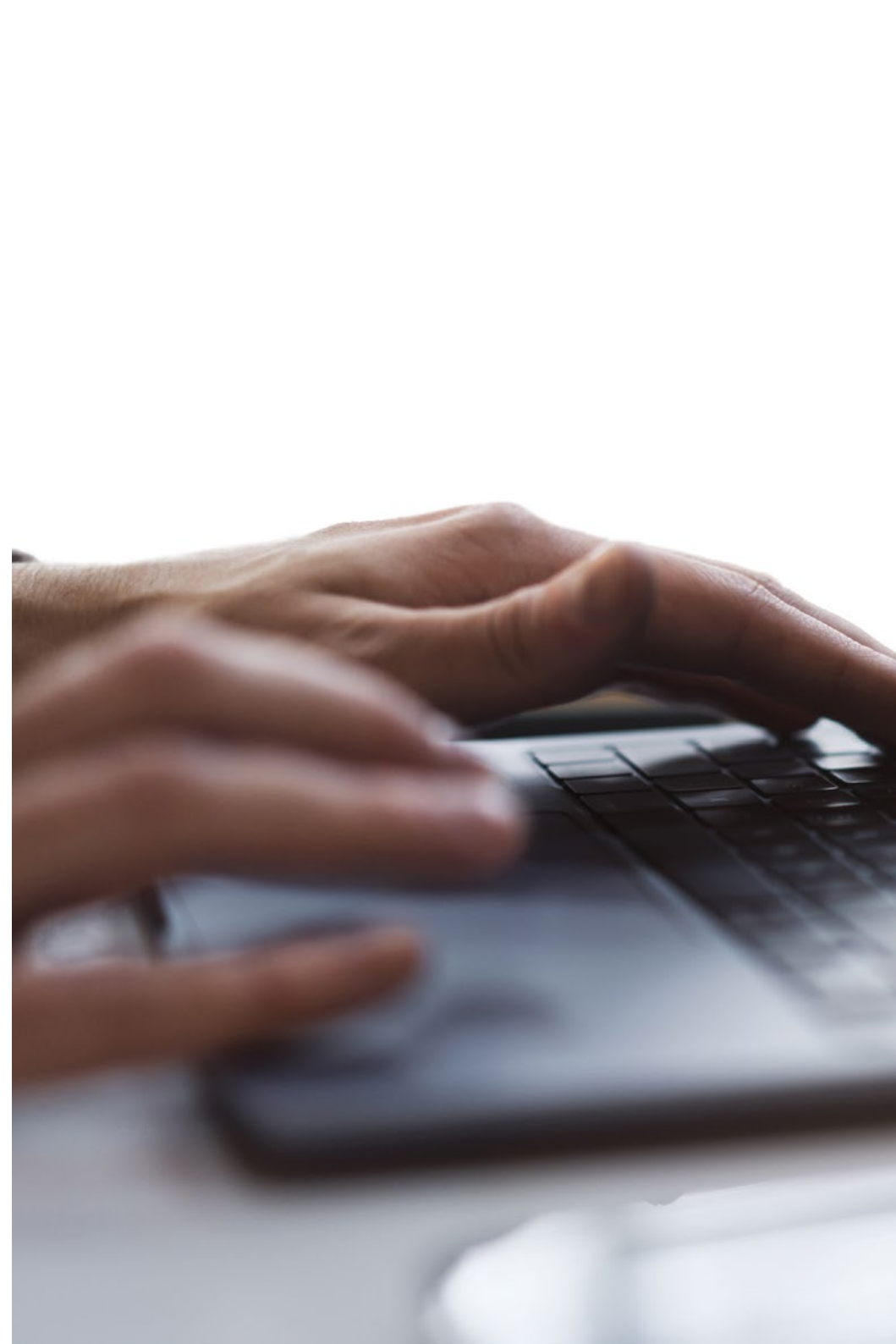
The student: the priority of all TECH programs

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 quality of teaching, quality of materials, course structure and objectives is excellent. Not surprisingly, the institution became the best rated university by its students on the Trustpilot review platform, 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.

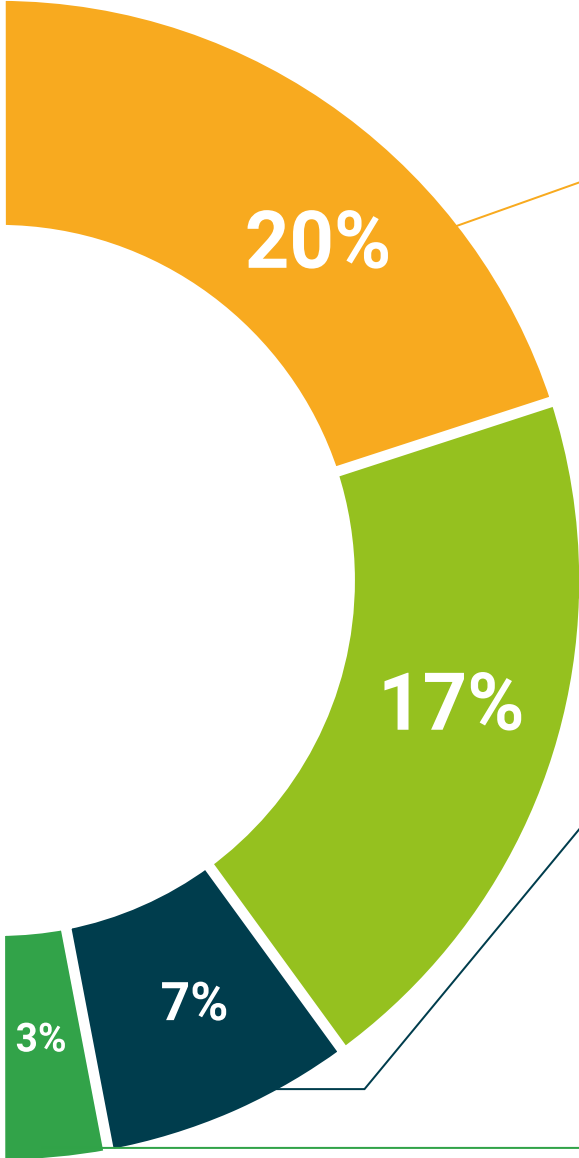
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



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.



07

Teaching Staff

Being the science of data analytics complex and variable, TECH has designed this Advanced Master's Degree in Big Data Management by bringing together a team of experts and leading professionals in their field, with varied knowledge and skills in different fields of data analytics. In this way, students are guaranteed access to high quality, extensive and complete teaching material, with which they can specialize in Big Data with the support of the best possible professionals.





“

With the help of the best experts brought together by TECH, you will also become one of the most highly valued Big Data professionals”

International Guest Director

Recognized as one of the best experts in Data Science by Forbes magazine, Robert Morgan is a distinguished **mathematician** highly specialized in the field of **Computational Statistics**. His extensive knowledge in this field has allowed him to be part of international reference institutions, such as the multinational Unilever.

In this way, he has led the **Data Science** strategy at a global level. In this sense, he has supervised multiple projects that use advanced analysis to optimize the strategic operations of companies. Among his major achievements, he has improved the **shopping experience** of multiple customers by offering them **personalized product recommendations** based on their preferences. As a result, it has enabled users to establish **loyal relationships** with brands. He has also employed **Digital Twins** in the manufacturing network, managing to monitor soap production in real time and significantly improving its quality.

Moreover, his philosophy focuses on the use of data systems to solve complex problems in the business environment and drive innovation. In the same vein, in his spare time he develops **software** and participates in open source projects. As such, he stays at the forefront of the latest trends in subjects such as **Bayesian Statistics**, **Big Data** and **Artificial Intelligence**, among others.

In addition, his work has been rewarded on multiple occasions in the form of awards. For example, he recently received the "Business Achievement" award from Unilever for his contribution to the **digital transformation** of the company. In this regard, it is worth noting that the integration of technologies has enabled companies to improve their **operational efficiency** by **automating** repetitive tasks. This has considerably reduced human errors in the logistics chain, resulting in both time and cost savings.



Mr. Morgan, Robert

- Global Director of Data Science at Unilever in New York, United States
- Head of Analytics and Data Science at Dunhumby, New York
- Statistician at Unilever, New York
- M.Sc. in Computational Statistics from the University of Bath
- M.Sc. in Statistical Research from the University of Bristol
- B.Sc. in Mathematics, Cardiff University
- Certificate in Statistical Learning from Stanford University
- Certificate in Programming from Johns Hopkins University

“

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

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
- ♦ PhD in Psychology from the University of Castilla La Mancha
- ♦ PhD in Economics, Business and Finance from the Camilo José Cela University
- ♦ PhD 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, 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 the research group SMILE.



Dr. Galindo, Luis Ángel

- ♦ Executive Director of Innovation at Telefónica
- ♦ Feasibility Analysis Manager at Telefónica Móviles
- ♦ Development Supervisor at Motorola
- ♦ PhD in Managerial Economics and Generation of New Business Models from Universidad Politécnica de Madrid
- ♦ Master's Degree in Business Administration from the University of Navarra
- ♦ Master's Degree in IP Network Services and Security from Universidad Politécnica de Madrid
- ♦ Postgraduate Diploma in Network and Advanced Internet Services from Universidad Carlos III de Madrid
- ♦ Telecommunications Engineer, Polytechnic University of Madrid

Professors

Ms. Álvarez de las Cuevas, Mónica

- ♦ Computer Engineer
- ♦ Project Management and Direction at COO MiBizPartners
- ♦ Project Team Management at Factor Ideas
- ♦ Training Coordinator at the School of Technical Excellence at Accenture
- ♦ IT Department Manager at Geditec
- ♦ Training Manager at Telefónica Educación Digital
- ♦ B.S. in Computer Engineering from the University of Southern Mississippi

Mr. Almansa, Antonio

- ♦ Data management and visual analytics specialist
- ♦ Design, implementation and integration of the Julian Camarillo DC contingency center
- ♦ Senior Technician: operation, engineering and architecture of the Data Center (DC) networks located in Independencia and Orduña, as well as the transport network at national level for tariffs and discharges.
- ♦ Level 2 Expert: design and implementation of the networks (with technological change) of the DC of Fco. Sancha and later Manuel Tovar

Mr. García Montesinos, Felipe

- ♦ Founding Partner and CEO of Knowdle AI Technologies Group
- ♦ CEO at HOMONOVUS incubator
- ♦ CEO at Intuitio Group
- ♦ Executive Master's Degree in Innovation
- ♦ Degree in Computer Science from the Polytechnic University of Madrid

Dr. Lominchar Jiménez, José

- ♦ Doctor in Law, International Consultant and Lecturer
- ♦ Director of the International Consultancy of High Performance (CIAR), Intelligence & Consulting
- ♦ University Professor
- ♦ International Speaker and TED Speaker
- ♦ Researcher
- ♦ Managing Director at Next International Business School
- ♦ International Advisor at ICONO sud Network
- ♦ Vice President of the Spanish Association of Executive and Business Coaching (AECEE)
- ♦ Doctor in Law from the Labor Law Program at UCJC, Spain
- ♦ Honorary Doctorate from the University Center for Legal Studies, Mexico
- ♦ Law Degree from the Complutense University of Madrid, Spain
- ♦ MBA: Master's Degree of Business Administration

Ms. Cordero García, Marta

- ♦ Specialist in Applied Mathematics and Aerospace Engineering
- ♦ Researcher of the Group Methods and Numerical Applications to Aerospace Technology
- ♦ Full Professor at the Polytechnic University of Madrid
- ♦ Senior Technician in Aerospace Engineering

Mr. Armero Fernández, Rafael

- ♦ Business Intelligence Consultant en SDG Group
- ♦ Digital Engineer at MI-GSO
- ♦ Logistic Engineer at Torrecid SA
- ♦ Quality Intern at INDRA
- ♦ Degree in Aerospace Engineering from the Polytechnic University of Valencia
- ♦ Master's Degree in Professional Development 4.0 from the University of Alcalá

Mr. Peris Morillo, Luis Javier

- ♦ Technical Lead at Capitole Consulting for Inditex
- ♦ Senior Technical Lead and Delivery Lead Support at HCL Technologies
- ♦ Technical Editor at Baeldung
- ♦ Agile Coach and Operations Manager at Mirai Advisory
- ♦ Developer, Team Lead, Scrum Master, Agile Coach and Product Manager at DocPath
- ♦ Technologist at ARCO
- ♦ Degree in Computer Science Engineering from the University of Castilla-La Mancha
- ♦ Master's Degree in Project Management from CEOE

Ms. Olmedo Soler, Asunta

- ♦ Creative Director, Copywriter and Blogger
- ♦ Creative Director, Copywriter and Graphic Designer at Managing and Innovation Business Partners
- ♦ Graphic Designer at Defensor del Pueblo
- ♦ Founder and Creative at Kidecó
- ♦ Director of the Graphic Design and Social Media Management Department at OK- Systems
- ♦ Master's Degree in Graphic Design at Tracor Training Center
- ♦ Communication, Public and PR Technician by the International Institute of Specialized Techniques
- ♦ Certificate in Community Manager at the Instituto Marketing Online

Ms. Rissanen, Karoliina

- ♦ EMEA Talent Acquisition Specialist at Hexagon Manufacturing Intelligence
- ♦ Human Resources Specialist at Oy Sinebrychoff Ab, Carlsberg Group
- ♦ Deputy Head of People, Performance and Development at IATA Global Delivery Center
- ♦ Customer Service Manager at IATA Global Delivery Center
- ♦ Diploma in Tourism from the University Haaga-Helia
- ♦ Degree in Human Resources and Labour Relations from the UNIR
- ♦ Master's Degree in Protocol and External Relations from Camilo José Cela University
- ♦ Diploma in Human Resources Management from the Chartered Institute of Personnel and Development
- ♦ Instructor by the International Air Transport Association

Ms. Fernández Meléndez, Galina

- ♦ Specialist's Degree in Big Data
- ♦ Data Analyst at Aresi Gestión de Fincas
- ♦ Data Analyst in ADN Mobile Solution
- ♦ Bachelor's Degree in Business Administration at Universidad Bicentenario Aragua. Caracas, Venezuela
- ♦ Diploma in Planning and Public Finance from the Venezuelan School of Planning
- ♦ Master's Degree in Data Analysis and Business Intelligence from the University of Oviedo
- ♦ MBA in Business Administration and Management by the European Business School of Barcelona
- ♦ Master's Degree in Big Data and Business Intelligence from the European Business School of Barcelona.

Ms. Martínez Cerrato, Yésica

- ♦ Responsible for Technical Training at Securitas Seguridad España
- ♦ Education, Business and Marketing Specialist
- ♦ Product Manager in Electronic Security at Securitas Seguridad España
- ♦ Business Intelligence Analyst at Ricopia Technologies
- ♦ Computer Technician and Responsible for OTEC computer classrooms at the University of Alcalá de Henares
- ♦ Collaborator in the ASALUMA Association
- ♦ Degree in Electronic Communications Engineering at the Polytechnic School, University of Alcalá de Henares.

Dr. Montoro Montarroso, Andrés

- ♦ Researcher in the SMILe Group at the University of Castilla-La Mancha.
- ♦ Researcher at the University of Granada
- ♦ Data Scientist at Prometheus Global Solutions
- ♦ Vice President and Software Developer at CireBits
- ♦ PhD in Advanced Information Technologies from the University of Castilla La Mancha
- ♦ Degree in Computer Engineering from the University of Castilla-La Mancha
- ♦ Master's Degree in Data Science and Computer Engineering from the University of Granada
- ♦ Guest lecturer in the subject of Knowledge-Based Systems at the Ciudad Real Higher School of Computer Science, giving the Lecture: *Advanced Artificial Intelligence Techniques: Search and Analysis of Potential Social Media Radicals*
- ♦ Guest lecturer in the subject of Data Mining at the Escuela Superior de Informática de Ciudad Real , giving the lecture: *Applications of Natural Language Processing: Fuzzy logic to the analysis of messages in social networks*
- ♦ Speaker at the Seminar on Prevention of Corruption in Public Administrations and Artificial Intelligence at the Faculty of Law and Social Sciences of Toledo, giving the lecture: *Artificial Intelligence Techniques*
- ♦ Speaker at the first International Seminar on Administrative Law and Artificial Intelligence (DAIA). Organized by the Luis Ortega Álvarez Centre for European Studies and the TransJus Research Institute. Conference entitled *"Sentiment Analysis for the prevention of hate speech on social media*

Mr. Fondón Alcalde, Rubén

- ♦ Analyst EMEA at Amazon Web Services
- ♦ Business Analyst in Customer Value Management at Vodafone Spain
- ♦ Head of Service Integration at Entelgy for Telefónica Global Solutions
- ♦ Online Account Manager for Clone Servers at EDM Electronics
- ♦ International Services Implementation Manager at Vodafone Global Enterprise
- ♦ Solutions Consultant for Spain and Portugal at Telvent Global Services
- ♦ Business Analyst for Southern Europe at Vodafone Global Enterprise
- ♦ Telecommunications Engineer from the European University of Madrid
- ♦ Master's Degree in Big Data and Data Science from the International University of Valencia.

Ms. Pedrajas Parabá, María Elena

- ♦ New Technologies and Digital Transformation Consultant en Management Solutions
- ♦ Researcher in the Department of Computer Science and Numerical Analysis at the University of Cordoba
- ♦ Researcher at the Singular Center for Research in Intelligent Technologies in Santiago de Compostela
- ♦ Degree in Computer Engineering from the University of Cordoba
- ♦ Master's Degree in Data Science and Computer Engineering from the University of Granada
- ♦ Master's Degree in Business Consulting at the Pontificia Comillas University

**Mr. Díaz Díaz-Chirón, Tobías**

- ◆ Expert consultant in Telecommunications
- ◆ Researcher in the ArCO laboratory of the University of Castilla-La Mancha
- ◆ Consultant at Blue Telecom
- ◆ Freelance mainly dedicated to the telecommunications sector, specialising in 4G/5G networks
- ◆ OpenStack: deploy and administration
- ◆ Computer Engineer from the University of Castilla - la Mancha
- ◆ Specialization in Architecture and computer network
- ◆ Associate Professor at the University of Castilla-La Mancha
- ◆ Speaker at Sepecam course on network administration

Mr. Tato Sánchez, Rafael

- ◆ Technical Director at Indra Sistemas SA
- ◆ Systems Engineer in ENA TRÁFICO SAU
- ◆ Master's Degree in Industry 4.0. by the Online University
- ◆ Master's Degree in Industrial Engineering from the European University
- ◆ Industrial Electronics and Automation Engineering Degree from the European University
- ◆ Industrial Technical Engineer by the Polytechnic University of Madrid

08

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