Hybrid Professional Master's Degree

Visual Analytics and Big Data

tech technological university

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Hybrid Professional Master's Degree

Visual Analytics and Big Data

Modality: **Hybrid (Online + Clinical Internship)**
Duration: **12 months**
Certificate: **TECH Technological University**
Teaching Hours: **1,620 h.**
Website: www.techtitute.com/us/information-technology/hybrid-professional-master-degree/hybrid-professional-master-degree-visual-analytics-big-data

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01

Introduction

The application of Big Data enables massive data processing and this is of great value to companies that personalize, for example, advertising according to consumer preferences. However, in order for data collection to be accurate, companies apply Visual Analytics techniques. In order to find solutions to complex problems, the market requires professionals with a highly qualified profile in data analysis. TECH has developed this theoretical-practical program to instruct specialists through AI techniques and ICTs. This program includes an initial theoretical phase, which is developed 100% online, and a practical period of 3 weeks, in which students will develop their skills to the maximum in prestigious companies and with professionals working in Visual Analytics and Big Data.

Get up to date on the role of Visual Analytics in today's social and technological context, thanks to an online program that is complemented by a practical period in a prestigious company"

The need to apply Big Data to personalize digital services for consumers is not only an individual benefit for users who save time on the web, but also an economic opportunity to apply direct selling. Likewise, data analysis has also greatly benefited the health field, as COVID has made it possible to record positive cases worldwide. This made it possible to count patients globally and, above all, to record the effects of the virus on those affected. This last point was key to the development of the vaccine.

These examples show the multiple uses of Big Data and evidence how its correct application can provide solutions to complex problems. In this sense, human knowledge merges with computing and gives rise to data storage. Therefore, it is essential that today's professionals have an in-depth update on the opportunities of customer analysis, data interaction, Artificial Intelligence techniques and strategic management with Data, among many other skills.

For this reason, TECH offers a program with theoretical and practical knowledge for graduates in Computer Science and other sciences, to broaden their knowledge and project the Marketing of the organization they work for, through AI. In addition, the Hybrid Professional Master's Degree in Visual Analytics and Big Data is taught by a group of experts in information technology to provide students with knowledge during the first 100% online period of this program. The digital modality offers, at the same time, a personalized adaptation for each student, being able to follow the study at any time and place with an internet connection. In addition, TECH has multiple audiovisual contents that, through activities and video summaries, make the program more dynamic.

This Hybrid Professional Master's Degree includes a practical period in prestigious companies dedicated to Marketing. This training phase ensures the correct application of the theoretical foundations previously provided to the students. In addition, the specialist will have experts in Visual Analytics and Big Data, both in their theoretical instruction as well as in their practical training. In the latter case, tutors will be available to guide the procedures in the practical scenario and resolve all doubts in situ.

This **Hybrid Professional Master's Degree in Visual Analytics and Big Data** contains the most complete and up-to-date educational program on the market. The most important features include:

- Development of more than 100 computer cases presented by professional experts in data analysis and interpretation and university professors with extensive experience in the digital sector
- 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
- Preparation of a strategic, operational and management report
- Identification of complex data patterns through Machine Learning
- Practice of data organization through a CRM
- Processing, cleaning, and preparation of data in different formats
- Use of Many Eyes, Matlab, Tableau, SAS Visual Analytics or Microsoft Power Bi as visualization tools
- All of this will be complemented by 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
- In addition, you will be able to do an internship in one of the best advertising agencies in the world

Get into the use of new technologies, thanks to tools such as 5G, IoT, Cloud and Edge Computing"

Experience a hands-on period that will broaden your skills in management, evaluation and method selection in data analytics and AI"

This Hybrid Professional Master's Degree will provide you with the keys to identify complex data patterns through Machine Learning and perform accurate statistics.

Broaden your competencies, thanks to a 3-week internship in a Data Science environment.

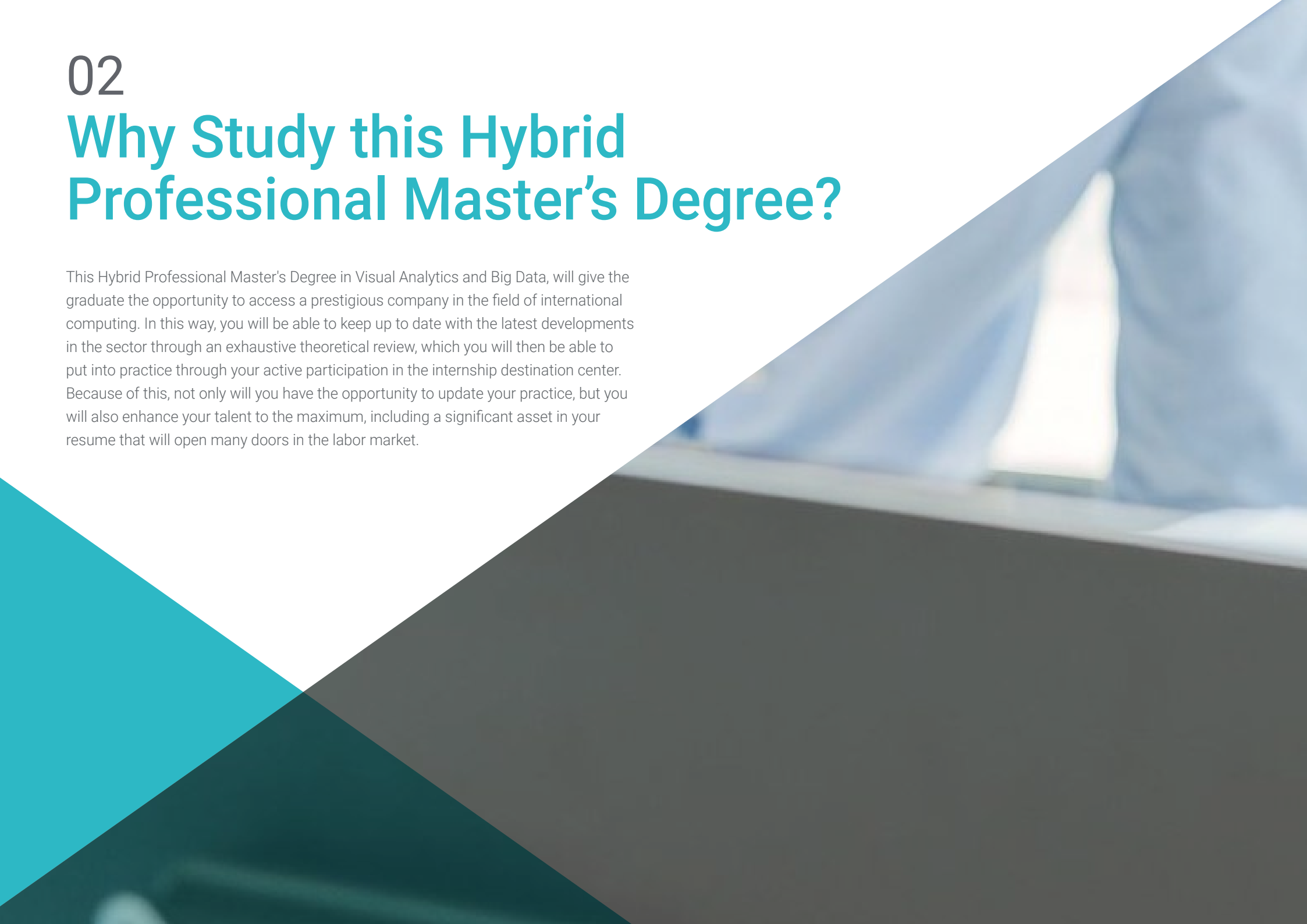
In this Hybrid Professional Master's Degree, of a professional nature and blended learning modality, the program is aimed at updating IT and Marketing professionals who work in advertising agencies and strategic management and who require a high level of qualification in new technologies. The contents are based on data analysis and are oriented in a didactic way to integrate theoretical knowledge into professional practice.

Thanks to its multimedia content developed with the latest educational technology, they will allow the professional a situated and contextual learning, that is to say, a simulated environment that will provide an immersive learning programmed to prepare in real situations. This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

02

Why Study this Hybrid Professional Master's Degree?

This Hybrid Professional Master's Degree in Visual Analytics and Big Data, will give the graduate the opportunity to access a prestigious company in the field of international computing. In this way, you will be able to keep up to date with the latest developments in the sector through an exhaustive theoretical review, which you will then be able to put into practice through your active participation in the internship destination center. Because of this, not only will you have the opportunity to update your practice, but you will also enhance your talent to the maximum, including a significant asset in your resume that will open many doors in the labor market.



A unique and exclusive opportunity to access a prestigious internship that will mark a before and after in your professional career"

1. Updating from the latest technology available

TECH is a pioneer in the entire academic market for its use of the most innovative and sophisticated technology for its programs. Therefore, in order to continue along this line, it requires practical centers to have the latest tools in the sector, in order to provide the graduate with a unique opportunity to access them and implement their skills in their exhaustive handling of them.

2. Gaining In-Depth Knowledge from the Experience of Top Specialists

A team versed in Big Data and Visual Analytics will accompany the graduate throughout the experience, both in the theoretical and practical aspects, providing support and making available all the resources needed to get the most out of the Hybrid Professional Master's Degree.

3. Entering First-Class Clinical Environments

The enrollment in this Hybrid Professional Master's Degree will give the graduate access to work actively, protagonist and side by side in countless cases related to Visual Analytics and Big Data. In this way, you will be able to put all your skills to work, as well as apply everything you have learned during the theoretical period. A way to lock in knowledge and demonstrate that everything included in this program is undeniably effective and efficient.

4. Combining the Best Theory with State-of-the-Art Practice

The design of the curriculum of this Hybrid Professional Master's Degree includes 1,500 hours of theoretical content and an additional 120 hours of internships. This is so that the graduate has the peace of mind of learning everything they need at the beginning, with the certainty of being able to apply it later in real cases, contributing to the improvement of their practice in a guaranteed way.

5. Expanding the Boundaries of Knowledge

TECH has no borders. For this reason, its training programs reach all over the world, offering hundreds of thousands of professionals from all over the world access to programs such as this Hybrid Professional Master's Degree. Because of this, they can count on the possibility of a practical period in international centers beyond their own countries, contributing to the expansion of their technical but also cultural knowledge.

You will have full practical immersion at the center of your choice"

03

Objectives

The program design of this Hybrid Professional Master's Degree offers students an opportunity to broaden their professional experience while acquiring new knowledge in Visual Analytics and Big Data. In its development, the program emphasizes algorithms and Artificial Intelligence techniques, such as decision trees, classification and association rules, neural networks or Deep Learning. It also focuses on the application of Data Mining tools for the resolution of learning problems, interpreting the results obtained, among other issues. All focused on enabling students to design an intelligent system capable of inferring new knowledge and become a much more competent professional. To this end, TECH establishes a series of general and specific objectives to fulfill future graduates' expectations.

With this theoretical and practical program you will learn more about the Hadoop Framework and its file system HDFS to optimize the distributed processing of large amounts of data"

General Objective

- This Hybrid Professional Master's Degree in Visual Analytics and Big Data aims to expand and update the knowledge of graduates in Computer Science and Marketing, among other disciplines, to understand the intricacies of the technological and social context in which the Visual Analytics tools are framed. In addition, the program delves into the different techniques for the analysis and exploitation of data and visualization and interaction techniques, all closely linked to the role of the Data Scientist. In its development, students will obtain rigorous content that will help them advance in their critical thinking, based on data, for strategic decision making

A program designed for specialists like you, who want to know all the tools to create better versions of interactive visualization methods"

Specific Objectives

Module 1. Visual Analytics in the Social and Technological Context

- Understand the new social, economic and business dynamics of the world
- Understand the value of new environments as an opportunity for entrepreneurship
- Develop analytical skills in changing environments
- Identify and focus on new scenarios and their opportunities
- Develop analytical and critical thinking for strategic decision making
- Understand new profiles in the current context in order to define strategies adapted to them
- Generate differential value in our ability to make decisions
- Understand the new business environment in order to address transformation processes in organizations

Module 2. Data Analysis and Interpretation

- Know the different theories for data analysis and interpretation
- Identify the most common descriptors for a dataset
- Understand and evaluate the applicability of different descriptors to an existing dataset
- Know how to carry out hypothesis testing and its applicability to the world of data analysis
- Learn how to interpret the different existing regression techniques

Module 3. Data and AI Analysis Techniques

- Understand the different techniques for data analysis
- Design the joint strategy of statistical and artificial intelligence techniques for the development of descriptive and predictive systems applied to the reality of a data set
- Understand the operation and characteristics of common mass data processing techniques
- Identify techniques oriented to statistical analysis, Artificial Intelligence and massive data processing

Module 4. Data Analysis Tools

- Know the environments most used by Data Scientists
- Know how to process data in different formats from different sources
- Learn from the need to guarantee the veracity of the data as a prior step to its processing
- Identify new technologies as pedagogical tools in the communication of the different business realities
- Know the latest trends in the creation of intelligent entities based on deep learning and neural networks

Module 5. Database Management and Data Parallelization Systems

- Know the artificial intelligence techniques applicable for mass parallelized data processing on a given data set and according to previously defined requirements
- Know how to manage large volumes of data in a distributed manner
- Understand the operation and characteristics of common mass data processing techniques
- Identify commercial and open software tools oriented to statistical analysis, artificial intelligence and mass data processing

Module 6. Data-Driven Soft Skills in Strategic Management of Visual Analytics

- Know and develop the drive profile applied to mass data environments
- Understand what they are and why advanced management skills generate differential value in the data scientist
- Develop strategic communication and presentation techniques
- Understand the role of emotional intelligence in the context of Visual Analytics
- Identify key concepts in Agile team management
- Develop and leverage digital talent in data-driven organizations
- Develop emotional management skills as a key to performance-focused organizations

Module 7. Strategic Management of Visual Analytics and Big Data Projects

- Know the best practices in PMI applied to the world of Big Data
- Learn Kimbal methodology
- Know the SQuID methodology and its applicability in the development of projects with large volumes of data
- Identify the legal issues of application related to the capture, storage and use of user data
- Know how privacy can be provided in Big Data
- Anticipate ethical risks and benefits derived from the application of big data techniques that may occur in real situations

Module 8. Client Analysis. Applying Data Intelligence to Marketing

- Know the different types of marketing and how they are applied in organizations and their influence on business strategies
- Be able to design a central intelligence system (CRM) for decision support based on data analysis and visualization, and focused on the company's own context
- Provide an introduction to the Internet as a massive source of real data based on user searches that can be utilized for decision making
- Analyze the technologies underlying the various web systems
- Develop open source intelligence solutions, exploiting available data sources
- Learn about application of data to improve marketing and sales in business organizations

Module 9. Interactive Visualization of Data

- Know how to generate diagrams from a set of data that visually represent the chosen situation
- Understand the scalability of individual representations
- Understand the difference between *Visual Analytics* and information visualization
- Understand the process of Keim's visual analysis
- Assess the different data visualization methods applicable depending on the information to be conveyed

Module 10. Visualization Tools

- Know how to generate diagrams that visually represent the chosen situation from a set of data
- Be able to combine the different techniques studied for the design of original visualizations
- Know how, starting from a design and a set of previous data, an implementation of a visualization that meets the defined requirements can be carried out
- Identify the usability and interactivity needs of a data visualization method and be able to develop a new version of the visualization that improves these aspects
- Design a system that combines data capture and storage techniques, as well as data analysis and visualization, to represent existing patterns in that data set

04

Skills

After completing the program, the professional will be prepared to perform Data Scientist functions in companies that focus on Big Data. In addition, students will do so with all the guarantees, having obtained resources to develop competencies in strategic management and analytical visualization techniques. Throughout the 12 months of the Hybrid Professional Master's Degree, you will perfect your skills until you reach the highest level.

Thanks to this Hybrid Professional Master's Degree, you will expand your skills in parallel processing, with tools such as Spark or Apache Software Foundation"

General Skills

- Possess a strategic vision of the application of new Data Analysis technologies to the business world and apply them to the development of innovative services based on the information analyzed

You will master the analysis and management of statistical data through the use of the most innovative IT tools in the sector"

Specific Skills

- Acquire the necessary skills for professional practice in the field of Visual Analytics in the social and technological context
- Know how to analyze and interpret statistical data
- Use data evaluation and analysis techniques
- Know the tools to be used in data analysis
- Perform management and parallelization of databases of different types
- Put into practice advanced management skills in data organization
- Lead Visual Analytics and Big Data projects
- Applying data engineering to marketing
- Make data visible
- Using data visualization tools

05

Course Management

TECH has called on a team of Visual Analytics based teachers with years of experience in the area of personalized marketing. The fusion of their theoretical knowledge with their practical experience, this program has a teaching endorsement, both academically and digitally. In this way, the specialist will be accompanied at all times by professionals who know what their needs are and what they currently need to continue to be at the forefront of Big Data.

Don't wait any longer, get support now from leading professionals in the application of technological advances so that you too can lead Visual Analytics projects"

Management

Dr. Luis Ángel Galindo

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

Professors

Ms. Marta Cordero García

- Specialist in Applied Mathematics and Aerospace Engineering
- Researcher of the Group Numerical Methods and Applications to Aerospace Technology
- University Professor, Polytechnic School of Madrid
- Technical School of Aerospace Engineering

Ms. Asunta Olmedo Soler

- Creative Director, Copywriter and Blogger
- Creative Director, Copywriter and Graphic Designer at Managing and Innovation Business Partners
- Graphic designer at the Ombudsman's Office
- Founder and creative at Kidecó
- Director of the Graphic Design and Social Media Management Department at OK- Systems
- Master's Degree in Graphic Design in Tractor Training Center
- Communication, Publicity and Public Relations Technician at Inte
- Community Manager Postgraduate Certificate at Instituto Marketing Online

Dr. José Lominchar Jiménez

- Doctor in Law, International Consultant and Lecturer
- Director of International High Performance Consulting (CIAR), Intelligence & Consulting
- University Professor
- International Speaker and TED Speaker
- Researcher
- Director General at Next International Business School
- Vice President of the Spanish Association of Executive and Business Coaching (AECEE)
- Dr. from the Labor Law Program of the UCJC, Spain
- Honorary PhD from the Legal from Studies University Center, Mexico, 2018
- Law degree from the Complutense University of Madrid, Spain
- MBA: Master of Business Administration

Mr. Antonio Almansa

- 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
- Postgraduate Diploma level 2: design and implementation of networks (with technological change) of the DC of Fco. Sancha and later Manuel Tovar

Ms. Mónica Álvarez de las Cuevas

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

Dr. Felipe García Montesinos

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

The teaching team will be at your disposal to guide you through the academic experience and to answer any questions you may have during the course of the experience"

06

Educational Plan

The content of this Hybrid Professional Master's Degree in Visual Analytics and Big Data has been carefully designed by experts in Big Data and Computer Science. Their contribution has developed a complete and rigorous program that offers all the guarantees for the projection of students' professional careers towards new technological trends, such as 5G and IoT. From the first module, students will gain didactic insights into the domains of regulatory aspects of hospital care, as well as the workings of anticipation theories applied to Visual Analytics and digital transformation. This is a unique theoretical-practical opportunity with which the specialist will be able to experiment in a scenario, which has already been adapted to the business environment of the future.

Master the social and cultural trends so that you understand the evolution towards the Data Society and know how to intervene in it"

Module 1. Visual Analytics in the Social and Technological Context

1.1. Technological Waves in Different Societies. Towards a 'Data Society'
1.2. Globalization. Geopolitical and Social World Context
1.3. VUCA Environment. Always Living in the Past
1.4. Knowing New Technologies: 5G and IoT
1.5. Knowing New Technologies: Cloud and Edge Computing
1.6. Critical Thinking in Visual Analytics
1.7. Knowmads Nomads Among Data
1.8. Learning to Be an Entrepreneur in Visual Analytics
1.9. Anticipation Theories Applied to Visual Analytics
1.10. The New Business Environment. Digital Transformation

Module 2. Data Analysis and Interpretation

2.1. Introduction to Statistics
2.2. Measures Applicable to the Processing of Information
2.3. Statistical Correlation
2.4. Theory of Conditional Probability
2.5. Random Variable and Probability Distribution
2.6. Bayesian Inference
2.7. Sample Theory
2.8. Confidence Intervals
2.9. Hypothesis Testing
2.10. Regression Analysis

Module 3. Data and AI Analysis Techniques

3.1. Predictive Analytics
3.2. Evaluation Techniques and Model Selection
3.3. Lineal Optimization Techniques
3.4. Montecarlo Simulations
3.5. Scenario Analysis
3.6. Machine Learning Techniques
3.7. Web Analytics
3.8. Text Mining Techniques
3.9. Methods of Natural Language Processing (NLP)
3.10. Social Network Analytics

Module 4. Data Analysis Tools

4.1. Data Science R Environment
4.2. Data Science Python Environment
4.3. Static and Statistical Graphs
4.4. Data Processing in Different Formats and Different Sources
4.5. Data Cleaning and Preparation
4.6. Exploratory Studies
4.7. Decision Trees
4.8. Classification and Association Rules
4.9. Neural Networks
4.10. Deep Learning

Module 5. Database Management and Data Parallelization Systems

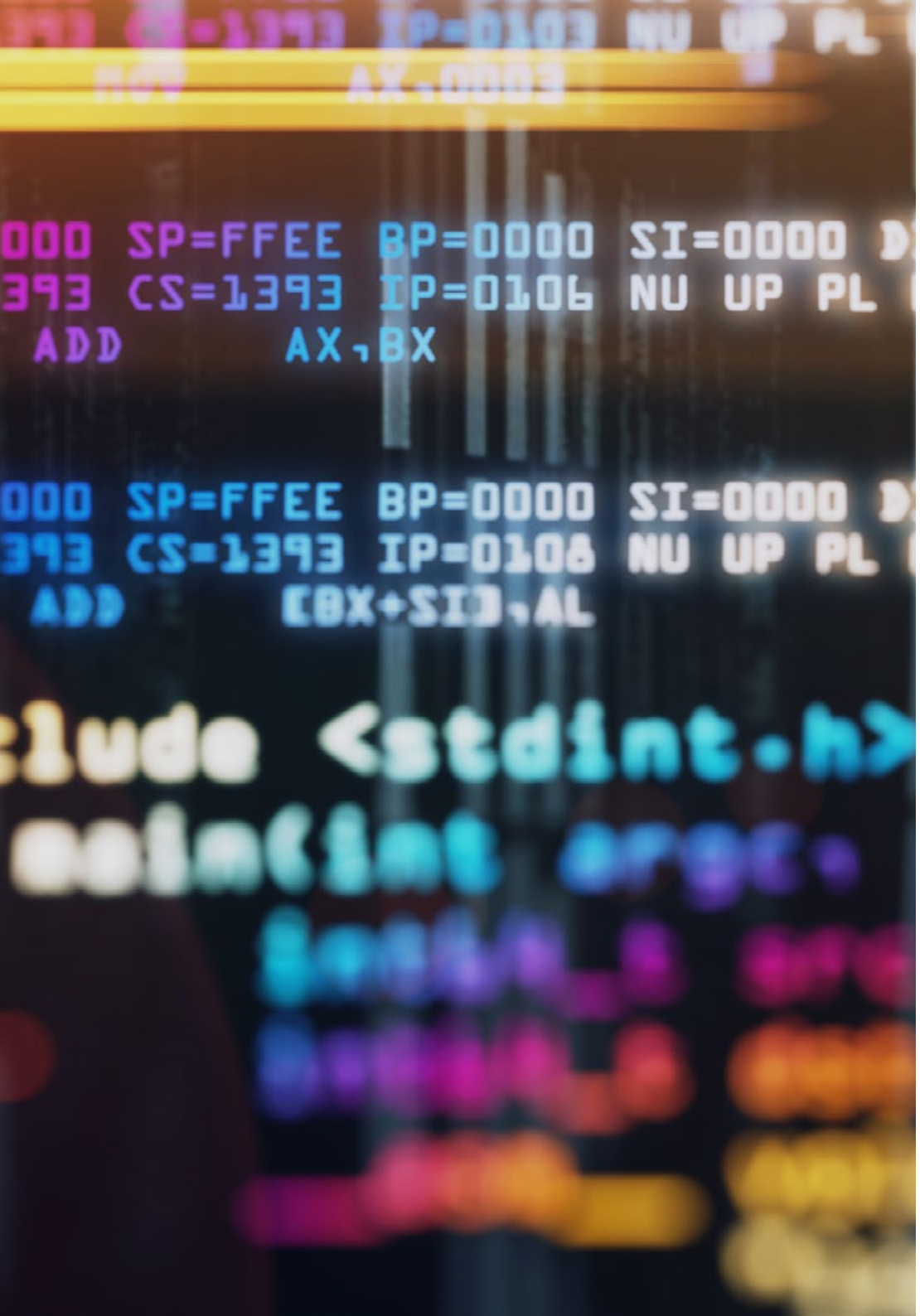
5.1. Conventional Databases
5.2. Non-Conventional Databases
5.3. Cloud Computing: distributed data management
5.4. Tools for the Ingestion of Large Volumes of Data
5.5. Types of Parallels
5.6. Data Processing in Streaming and Real Time
5.7. Parallel Processing: Hadoop
5.8. Parallel Processing: Spark
5.9. Apache Kafka
    5.9.1. Introduction to Apache Kafka
    5.9.2. Architecture
    5.9.3. Data Structure
    5.9.4. Kafka APIs
    5.9.5. Case Uses
5.10. Cloudera Impala

Module 6. Data-Driven Soft Skills in Strategic Management in Visual Analytics

6.1. Drive Profile for Data-Driven Organizations
6.2. Advanced Management Skills in Data-Driven Organizations
6.3. Using Data to Improve Strategic Communication Performance
6.4. Emotional Intelligence Applied to Management in Visual Analytics
6.5. Effective Presentations
6.6. Improving Performance Through Motivational Management
6.7. Leadership in Data-Driven Organizations
6.8. Digital Talent in Data-Driven Organizations
6.9. Data-Driven Agile Organization I
6.10. Data-Driven Agile Organization II

Module 7. Strategic Management of Visual Analytics and Big Data Projects

7.1. Introduction to Strategic Project Management
7.2. Best Practices in the Description of Big Data Processes (PMI)
7.3. Kimball Methodology
7.4. SQuID Methodology
7.5. Introduction to SQuID Methodology to Approach Big Data Projects
  7.5.1. Phase I. Sources
  7.5.2. Phase II. Data Quality
  7.5.3. Phase III. Impossible Questions
  7.5.4. Phase IV. Discovering
  7.5.5. Best Practices in the Application of SQuID in Big Data Projects
7.6. Legal Aspects in the World of Data
7.7. Big DataPrivacy
7.8. Cyber Security in Big Data
7.9. Identification and De-identification with Large Volumes of Data
7.10. Data Ethics I
7.11. Data Ethics II



Module 8. Client Analysis. Applying Data Intelligence to Marketing

8.1. Concepts of Marketing. Strategic Marketing
8.2. Relationship Marketing
8.3. CRM as an Organizational Hub for Customer Analysis
8.4. Web Technologies
8.5. Web Data Sources
8.6. Acquisition of Web Data
8.7. Tools for the Extraction of Data from the Web
8.8. Semantic Web
8.9. OSINT: Open-Source Intelligence
8.10. Master Lead or How to Improve Sales Conversion Using Big Data

Module 9. Interactive Visualization of Data

9.1. Introduction to the Art of Making Data Visible
9.2. How to do Storytelling with Data
9.3. Data Representation
9.4. Scalability of Visual Representations
9.5. Visual Analytics vs. Information Visualization. Understanding That Its Not The Same
9.6. Visual Analysis Process (Keim)
9.7. Strategic, Operative and Managerial Reports
9.8. Types of Graphs and Their Application
9.9. Interpretation of Reports and Graphs. Playing the Role of the Receiver
9.10. Evaluation of Visual Analytics Systems

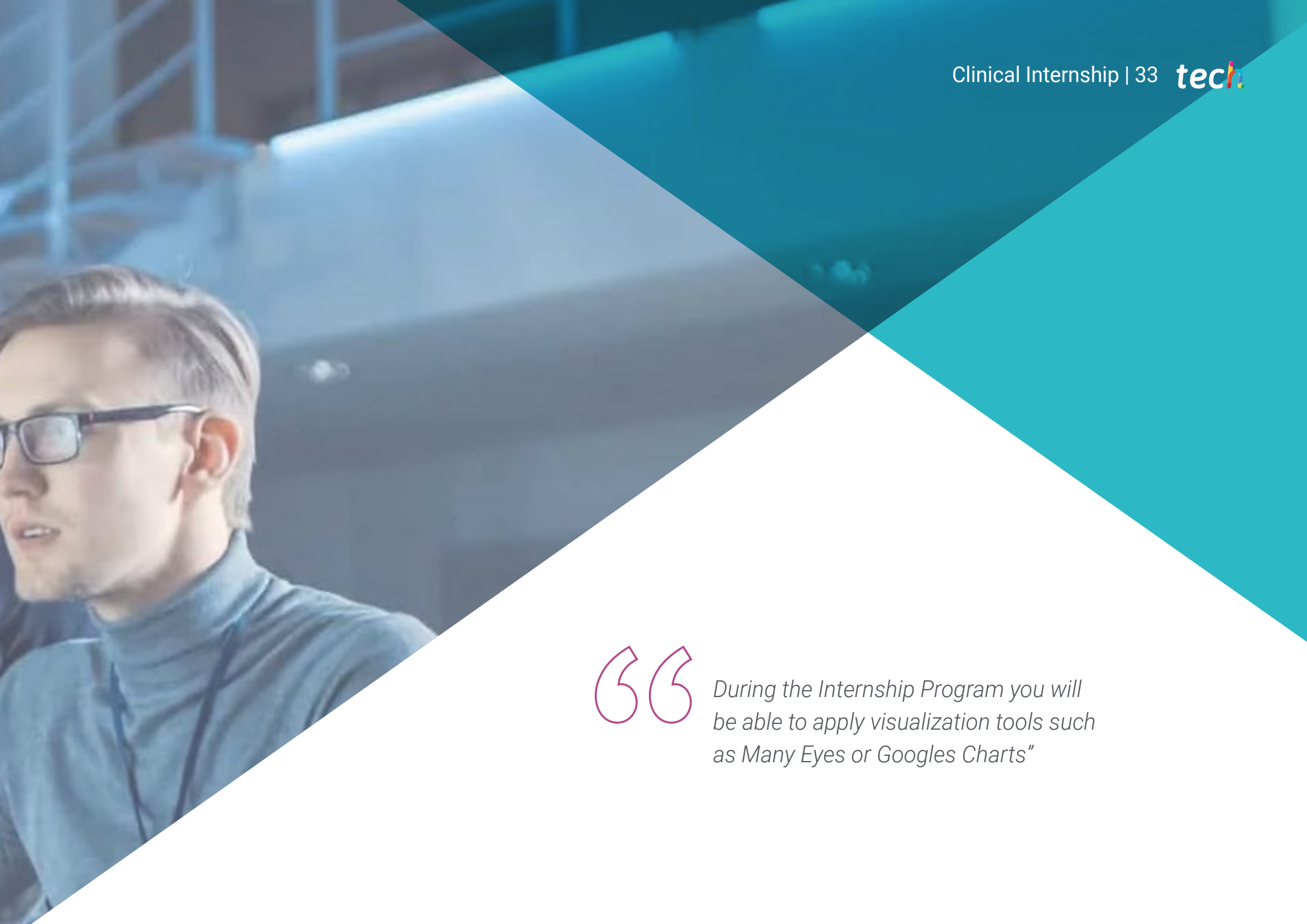
Module 10. Visualization Tools

10.1. Introduction to Data Visualization Tools
10.2. Many Eyes
10.3. Google Charts
10.4. jQuery
10.5. Data-Driven Documents I
10.6. Data-Driven Documents II
10.7. Matlab
10.8. Tableau
10.9. SAS Visual Analytics
10.10. Microsoft Power BI

07

Clinical Internship

Once the online theoretical learning period is completed, the program has 120 hours of training in an advertising agency focused on results analysis. The specialist will have the support of a tutor who will guide them throughout the practical process, both in their preparation and in the development of real cases.



During the Internship Program you will be able to apply visualization tools such as Many Eyes or Googles Charts"

The Internship Program of this program in an advertising agency is developed in 3 weeks of exhaustive preparation. During these weeks the students will have a qualification from Monday to Friday with consecutive 8-hour days with the guidance of an assistant specialist. Throughout the qualification, you will develop advanced management skills in Data-Driven, so that you will be able to optimize the performance of strategic communication. The student will be supported by a team of industry experts who will guide them to act under the ethics and organization of data through multiple processes, such as CRM.

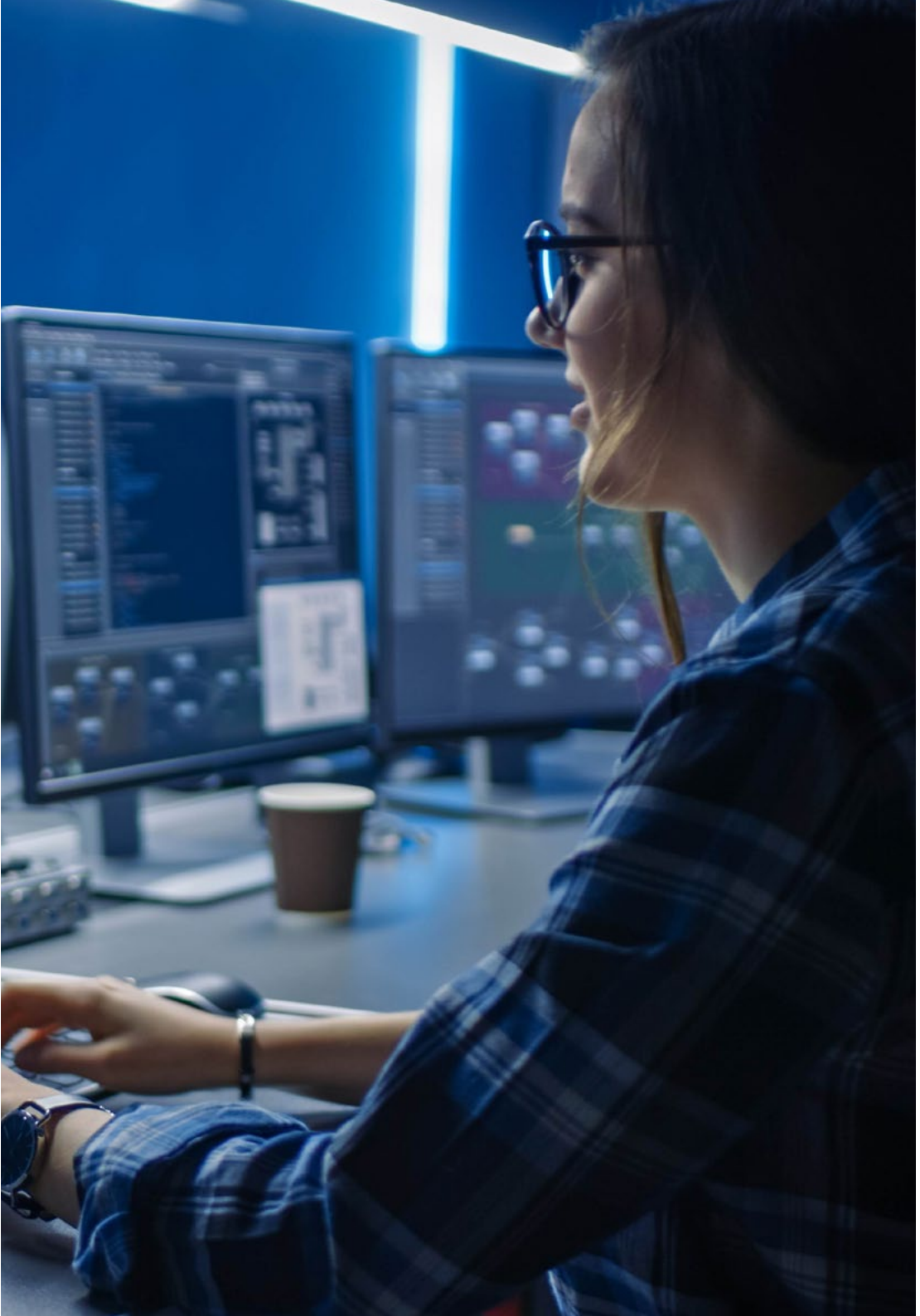
This practical training proposal was created in response to the need for specialists who are adapted to the digital paradigm and the new trends in data analysis. Thanks to this period, students will be able to put into practice all their knowledge to design database management systems and carry out Data parallelization. All this, together with the professional and personal development of the students, is the aim of the Internship Program, which also offers a high professional performance in the labor market.

This is a unique opportunity in which students will be instructed with the support of experienced tutors, who will accompany them in their practices and will be responsible for developing various tools around visualization, data analysis and its benefits in results, among many other issues. For this reason, TECH has consciously chosen the center, so that students can learn in an advertising organization that offers the latest technologies and, in addition, prepares them to put them into practice.

The practical part will be carried out with the active participation of the student performing the activities and procedures of each area of competence (learning to learn and learning to do), with the accompaniment and guidance of teachers and other training partners that facilitate teamwork and multidisciplinary integration as transversal competencies for computer praxis (learning to be and learning to relate).

The procedures described below will be the basis of the practical part of the training, and their implementation will be subject to the center's own availability and workload, the proposed activities being the following:

Not yet familiar with OSINT management? Be one of the professionals working on care processes with open source intelligence and data mining"



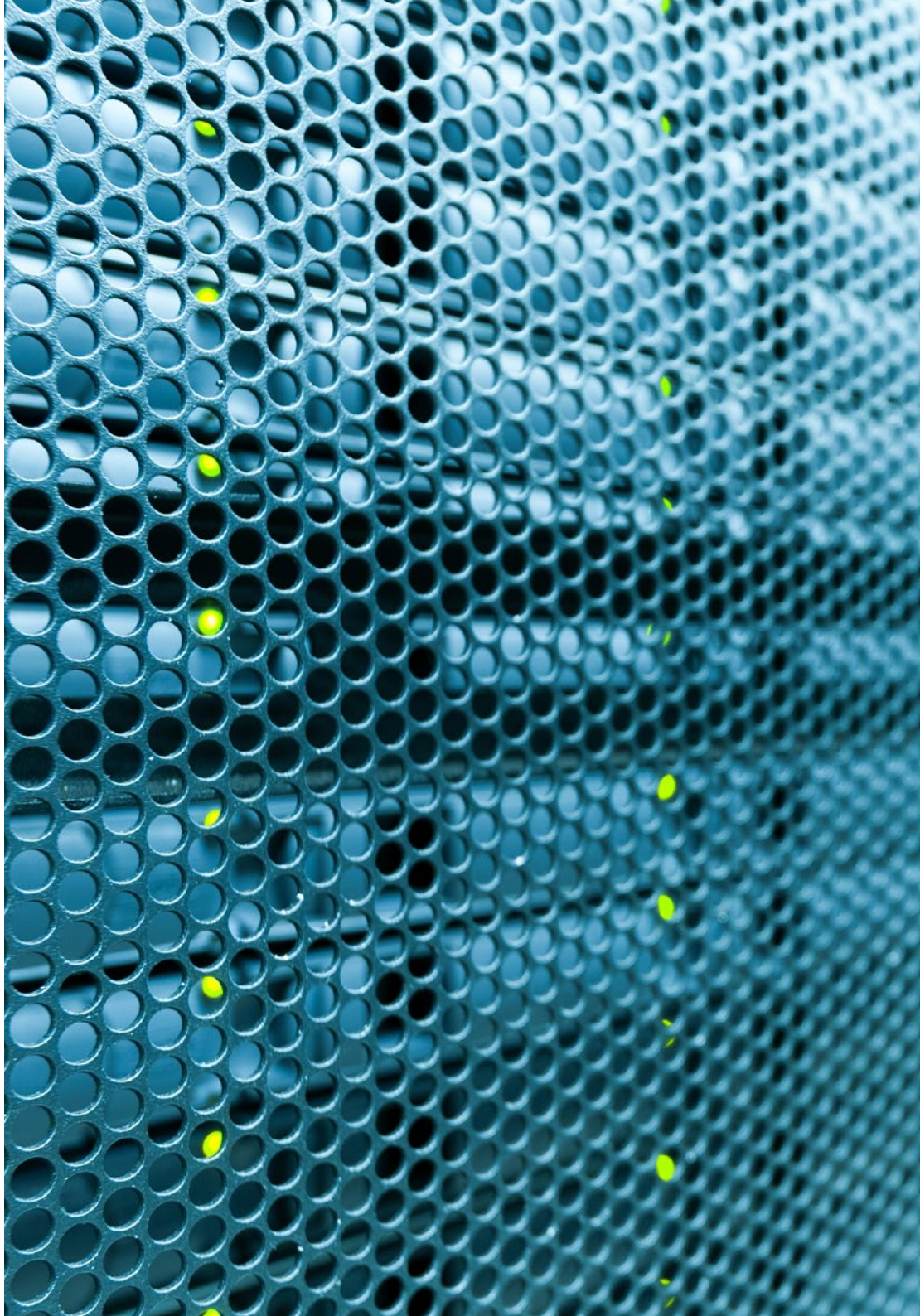
Module	Practical Activity
Social and technological context of Visual Analytics (data analysis and interpretation)	Learn about the new 5G, IoT, Cloud and Edge Computing technologies
	Apply Critical Thinking techniques in Visual Analytics
	Managing the different types of information processing
	Knowledge of random variables and probability distributions
	Put into practice the different applications of Bayesian inference
	Manage information by applying sample theory
	Practice working with the range of values through the application of confidence intervals
Data analysis and AI	Manage information through the use of evaluation techniques and method selection
	Integrating information through web analytics
	Evaluate the use of social networks
	Implement linear optimization techniques: graphical method and simple method
	Identifying complex data patterns through Machine Learning
	Perform a statistic through the Monte Carlo method
	Work on text comprehension, classification and analysis through Text Mining
	Manage methods in natural language processing (NLP)
Knowledge of data analysis tools and database management and parallelization systems	Work on statistical analysis through the Data Science R environment
	Practicing data analysis through Python
	In-depth processing, cleaning, and preparation of data in different formats
	Elaborate a decision tree
	Apply the rules of classification and association
	Know the tools for ingesting large volumes of data
	Delve into Hadoop and Spark data processing system management
	Work on the management of the Apache Kafka platform
	Manage the Cloudera Impala search engine
Strategic management of Visual Analytics and Big Data projects and use of Data-Driven Softskills	Manage data to optimize strategic communication performance
	Practicing advanced management skills in Data-Driven
	Managing the Kimball methodology
	Monitor and evaluate quality through the SQUID method
	Putting privacy issues into practice in Big Data
	Apply the best cybersecurity techniques in Big Data

Civil Liability Insurance

This institution's main concern is to guarantee the safety of the trainees and other collaborating agents involved in the internship process at the company. Among the measures dedicated to achieve this is the response to any incident that may occur during the entire teaching-learning process.

To this end, this educational entity undertakes to take out civil liability insurance to cover any eventuality that may arise during the stay at the internship center.

This liability policy for interns will have broad coverage and will be taken out prior to the start of the practical training period. In this way, the professional will not have to worry in case they have to face an unexpected situation and will be covered until the end of the practical program at the center.



General Conditions for Practical Training

The general terms and conditions of the internship program agreement shall be as follows:

1. TUTOR: During the Hybrid Professional Master's Degree, students will be assigned with two tutors who will accompany them throughout the process, answering any doubts and questions that may arise. On the one hand, there will be a professional tutor belonging to the internship center who will have the purpose of guiding and supporting the student at all times. On the other hand, they will also be assigned with an academic tutor whose mission will be to coordinate and help the students during the whole process, solving doubts and facilitating everything they may need. In this way, the student will be accompanied and will be able to discuss any doubts that may arise, both clinical and academic.

2. DURATION: The internship program will have a duration of three continuous weeks, in 8-hour days, 5 days a week. The days of attendance and the schedule will be the responsibility of the center and the professional will be informed well in advance so that they can make the appropriate arrangements.

3. ABSENCE: If the students does not show up on the start date of the Hybrid Professional Master's Degree, they will lose the right to it, without the possibility of reimbursement or change of dates. Absence for more than two days from the internship, without justification or a medical reason, will result in the professional's withdrawal from the internship, therefore, automatic termination of the internship. Any problems that may arise during the course of the internship must be urgently reported to the academic tutor.

4. CERTIFICATION: Professionals who pass the Hybrid Professional Master's Degree will receive a certificate accrediting their stay at the center.

5. EMPLOYMENT RELATIONSHIP: the Hybrid Professional Master's Degree shall not constitute an employment relationship of any kind.

6. PRIOR EDUCATION: Some centers may require a certificate of prior education for the Hybrid Professional Master's Degree. In these cases, it will be necessary to submit it to the TECH internship department so that the assignment of the chosen center can be confirmed.

7. DOES NOT INCLUDE: The Hybrid Professional Master's Degree will not include any element not described in the present conditions. Therefore, it does not include accommodation, transportation to the city where the internship takes place, visas or any other items not listed.

However, students may consult with their academic tutor for any questions or recommendations in this regard. The academic tutor will provide the student with all the necessary information to facilitate the procedures in any case.

08

Where can I do the Clinical Internship?

This Hybrid Professional Master's Degree program includes an internship in an advertising agency, which develops the marketing of other organizations through Big Data. This is a remarkable center where the student will receive 3 weeks of practical preparation to carry out real management tasks. In this way, TECH brings the program closer to the students, but, above all, instructs them to face the strong digital transformation. In addition, the student will become familiar with the knowledge and will be able to become a Visual Analytics and Big Data professional in the most direct way.

Complete your theoretical instruction with a practical internship that will not only make you grow professionally, but also personally with Data experts"

The student will be able to take the practical part of this Hybrid Professional Master's Degree in the following centers:

EPA Digital

Country
Mexico

City
Mexico City

Address: Avenida Ejército Nacional 418 piso 9
Polanco V Sección CDMX C.P 11520

Digital Marketing and Communication Agency

Related internship programs:
- Visual Analytics and Big Data
- MBA in Digital Marketing

information-technology

Grupo Fórmula

Country
Mexico

City
Mexico City

Address: Cda. San Isidro 44, Reforma Soc, Miguel Hidalgo, 11650 Ciudad de México, CDMX

Leading company in multimedia communication and content generation

Related internship programs:
Graphic Design
People Management

Take advantage of this opportunity to surround yourself with expert professionals and learn from their work methodology"

09

Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning.**

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.

Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.

At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world"

You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.

The student will learn to solve complex situations in real business environments through collaborative activities and real cases.

A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.

> *Our program prepares you to face new challenges in uncertain environments and achieve success in your career"*

The case method has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the course, students will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.

Relearning Methodology

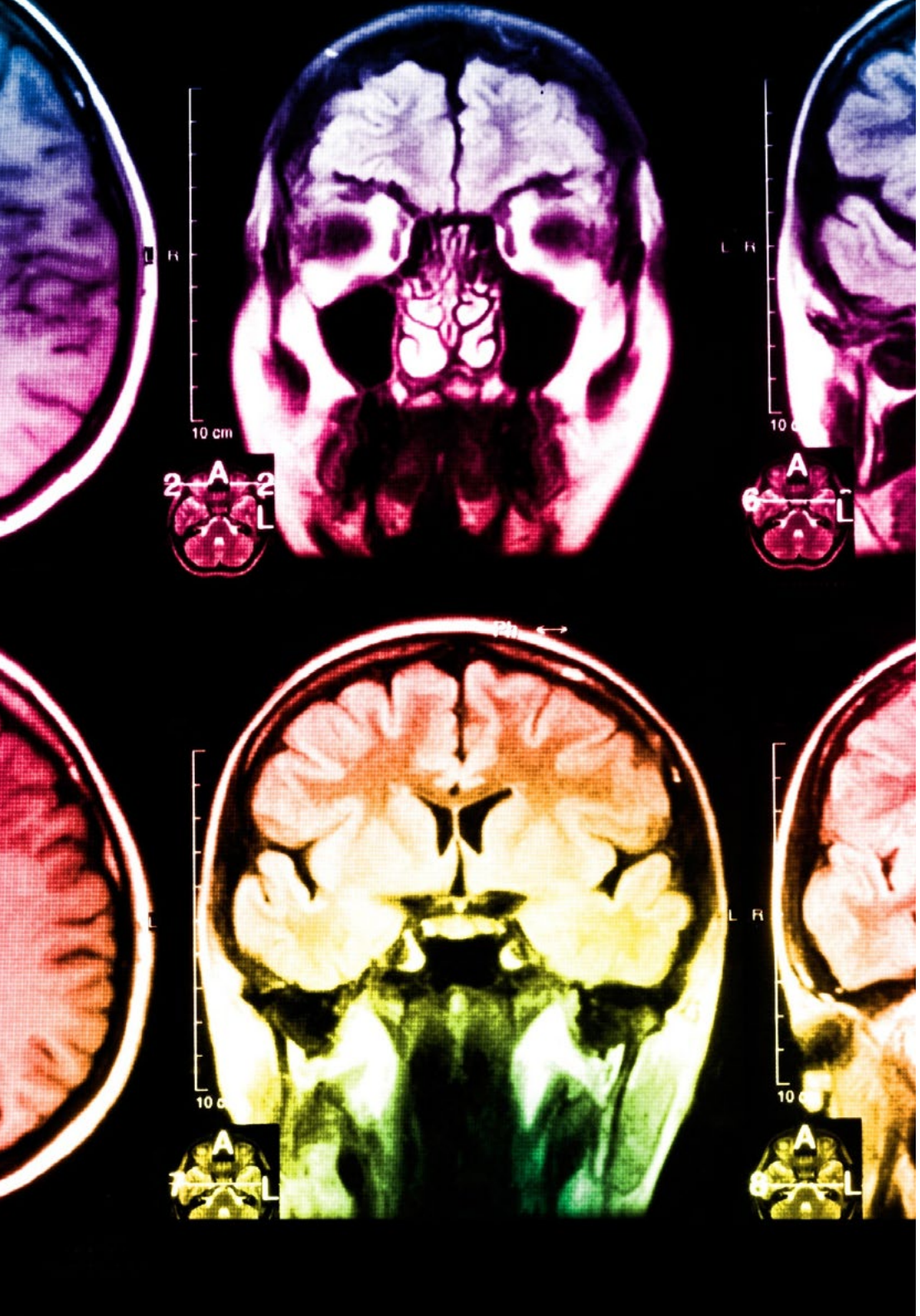
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

In 2019, we obtained the best learning results of all online universities in the world.

At TECH you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically. This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

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

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.

This program offers the best educational material, prepared with professionals in mind:

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.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.

Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

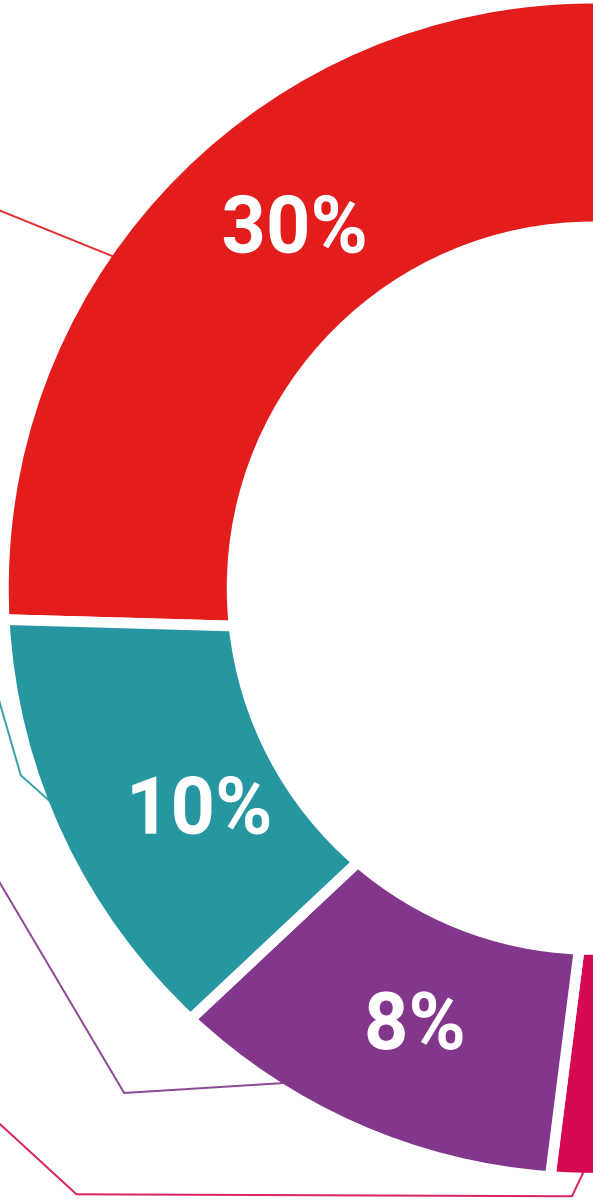
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

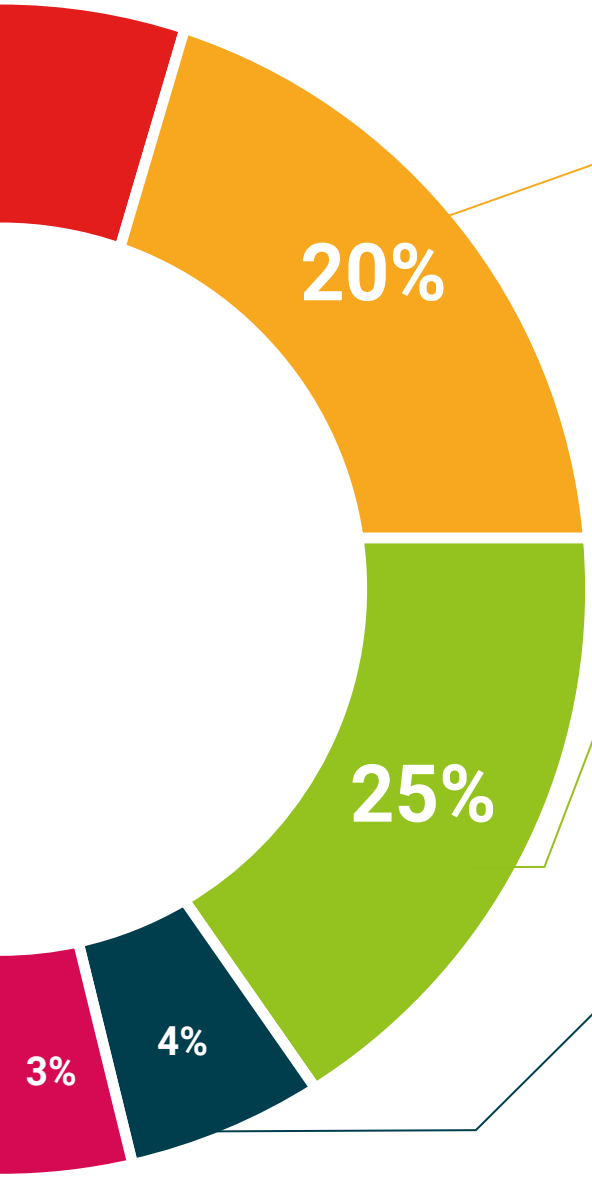
Practising Skills and Abilities

They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.

Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





Case Studies

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.

Interactive Summaries

The TECH team presents 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".

Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.

10

Certificate

This Hybrid Professional Master's Degree in Visual Analytics and Big Data guarantees students, in addition to the most rigorous and up-to-date education, access to a Hybrid Professional Master's Degree diploma issued by TECH Technological University.

Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"

This **Hybrid Professional Master's Degree in Visual Analytics and Big Data** contains the most complete and up-to-date program on the professional and educational field.

After the student has passed the assessments, they will receive their corresponding Hybrid Professional Master's Degree diploma issued by TECH Technological University via tracked delivery*.

In addition to the diploma students will be able to obtain an academic transcript, as well as a certificate outlining the contents of the program. In order to do so, students should contact their academic advisor, who will provide them with all the necessary information.

Title: **Hybrid Professional Master's Degree in Visual Analytics and Big Data**

Modality: **Hybrid (Online + Clinical Internship)**

Duration: **12 months**

Certificate: **TECH Technological University**

Teaching Hours: **1,620 h.**

tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having successfully passed and accredited the following program

HYBRID PROFESSIONAL MASTER'S DEGREE

in

Visual Analytics and Big Data

This is a qualification awarded by this University, with a duration of 1,620 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
Dean

Unique TECH Code: AFWORD23S techtitute.com/certificates

Hybrid Professional Master's Degree in Visual Analytics and Big Data

Subject type	Hours
Compulsory (CO)	1,500
Optional (OP)	0
External Work Placement (WP)	120
Master's Degree Thesis (MDT)	0
	Total 1,620

General Structure of the Syllabus

Year	Subject	Hours	Type
1	Visual Analytics in the Social and Technological Context	150	CO
1	Data Analysis and Interpretation	150	CO
1	Data and AI Analysis Techniques	150	CO
1	Data Analysis Tools	150	CO
1	Database Management and Data Parallelization Systems	150	CO
1	Data-Driven Soft Skills in Strategic Management in Visual Analytics	150	CO
1	Strategic Management of Visual Analytics and Big Data Projects	150	CO
1	Client Analysis. Applying Data Intelligence to Marketing	150	CO
1	Interactive Visualization of Data	150	CO
1	Visualization Tools	150	CO

Tere Guevara Navarro
Dean

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*Apostille Convention. In the event that the student wishes to have their paper diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

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Hybrid Professional Master's Degree

Visual Analytics and Big Data

Modality: **Hybrid (Online + Clinical Internship)**
Duration: **12 months**
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Teaching Hours: **1,620 h.**

Hybrid Professional Master's Degree
Visual Analytics and Big Data

tech technological university