Advanced Master's Degree

Big Data Management

tech global university

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Advanced Master's Degree
Big Data Management

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

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

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01

Introduction

Thanks to today's technological advances, almost anything imaginable is quantifiable. Companies have access to more and more metrics and data, enabling them to plan their business strategies even better. In this new reality, the figure of the data analyst is becoming essential in every company, and Big Data specialists are even more valued and in demand. This new branch of analytics focuses on the proper collection, management and analysis of massive amounts of data to turn them into valuable assets in the enterprise. It is a highly skilled job, which requires a great educational investment in all the techniques, environments, technologies and principles that govern this science. With this in mind, TECH has developed the present program, which teaches students the main fundamentals of Big Data, as well as the complementary skills that will undoubtedly help them to stand out professionally in the field of analytics.

With the increasing amount of data that companies must collect, store and manage, you won't be short of job opportunities in this highly specialized field"

Data analysts have been gaining prominence over the past few decades thanks to the continuous technological advances that have allowed them to specialize and manage ever-increasing amounts of information. The growth and increase in the amount of data has been so significant that the discipline of Big Data has emerged. As defined by Doug Laney himself, it is characterized by the volume, variety and velocity of the data that continually reaches companies. The analyst in charge of filtering and managing all this information must be highly trained in databases and evaluation tools in order to know how to correctly handle all the material they are working with.

Due to the high level of training required in the field of Big Data, TECH has developed this Advanced Master's Degree in Big Data Management. It compiles the main skills and knowledge that a data analytics specialist must acquire to be competent and effective in the field of Big Data. Therefore, the main platforms, algorithms and the most up-to-date tools are studied. There is also focus on the strategic visions needed to be able to turn all these analytics into a valuable asset for the company in order to make productive and satisfactory business decisions. The teaching also includes in-depth information on the Internet of things, data science, marketing, machine learning or visual analytics itself, thereby guaranteeing a deep-rooted education for the student.

In addition, it is a 100% online program, which means that the student does not have to travel to a physical center or adhere to pre-set schedules. The student can access the educational material at any time and plan their studies as best suits them and their personal, professional or academic needs.

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

- Practical cases studies are presented by experts in data analysis
- The graphic, schematic, and eminently practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where the self-assessment process can be carried out to improve learning
- Special emphasis on innovative methodologies in the field of data analysis
- 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

You are going to become the backbone of any business strategy in large companies. Don't hesitate in giving your career a boost with this Advanced Master's Degree in Big Data Management"

If you know the story of Billy Beane and the Oakland Athletics, you are aware of how your work can revolutionize the world. Specialize in Big Data Management and become the vector of modern change"

Big Data Analysis is going to improve levels of quality in many technological fields. Join a field where you will be the main player in the business and personal evolution of society.

Your work as a Big Data Analyst will be recognized and appreciated by the best companies in the world, as it will be you who offers them intelligent solutions for complex problems.

The teaching staff includes professionals from the field of Data Analysis, who contribute their experience to this program, as well as renowned specialists from leading 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 educational experience designed to learn 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 during the course. For this purpose, the professional will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

The objective of the Advanced Master's Degree in Big Data Management is to instruct the student in the extensive field of the analysis of large amounts of data, both from the perspective of the collection and storage itself, as well as the subsequent interpretation and filtering of the data. This allows the student to develop intervention plans and solutions to complex problems based on the collected analytics. In addition, the student will also learn how to prepare reports to show all the data in a clear and concise way to management or work teams.

This Advanced Master's Degree will completely change your career perspective, allowing you to apply for positions you would never have considered before"

General objectives

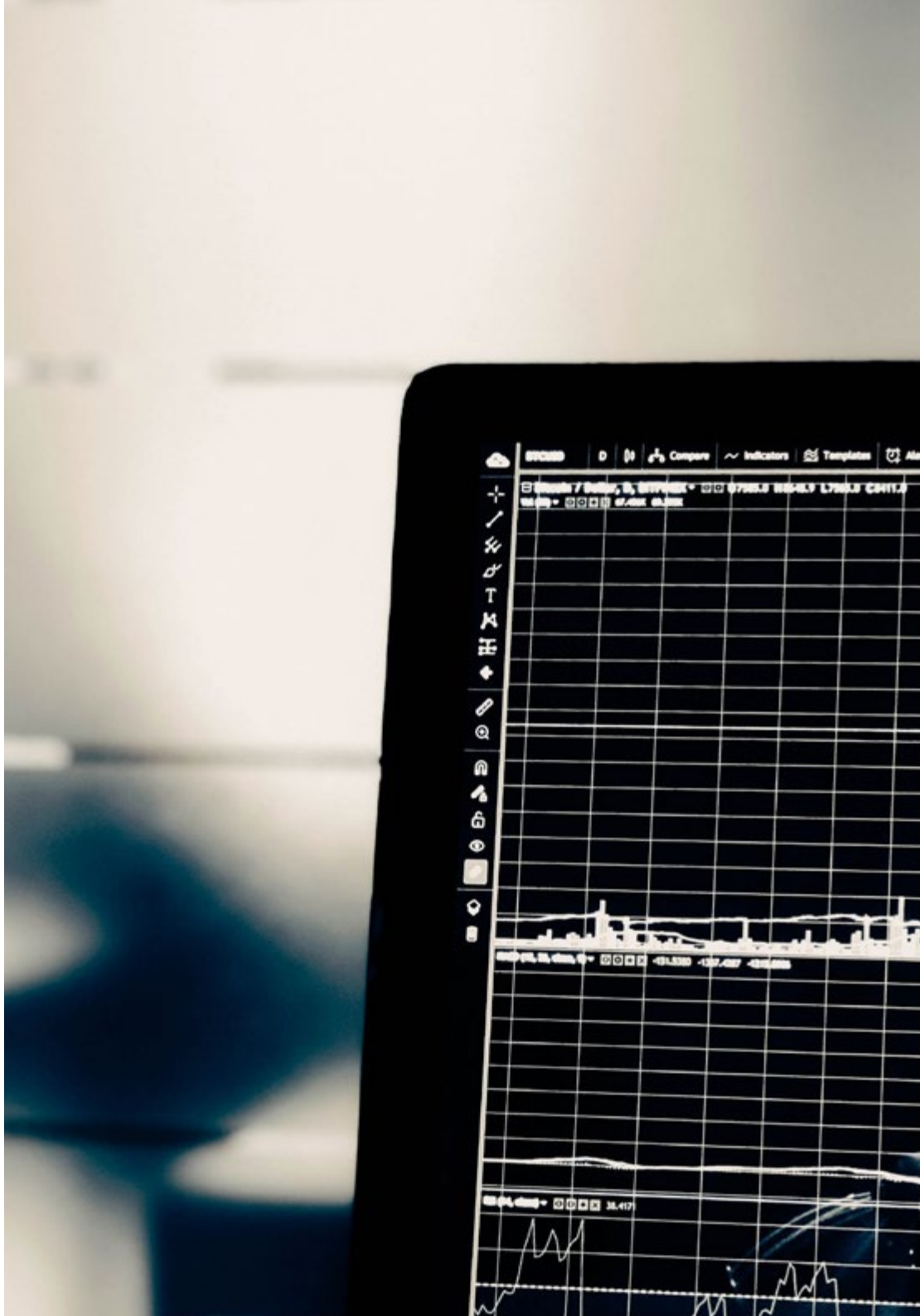
- Offer students immersion in the new social and technological context in which Visual Analytics tools are framed
- Obtain and enhance fact-based critical thinking for strategic decision-making
- Study the value of the changing environment and facilitate the student's connection with entrepreneurship and the new knowmad way of working
- Analyze the data produced and draw conclusions using statistical tools to make the most appropriate decisions at all times
- Understand the benefits of applying data analytics techniques in each department of the company
- Develop the basis for understanding the needs and applications of each department
- Generate specialized knowledge to select the right tool
- Propose techniques and objectives in order to be as productive as possible according to the department

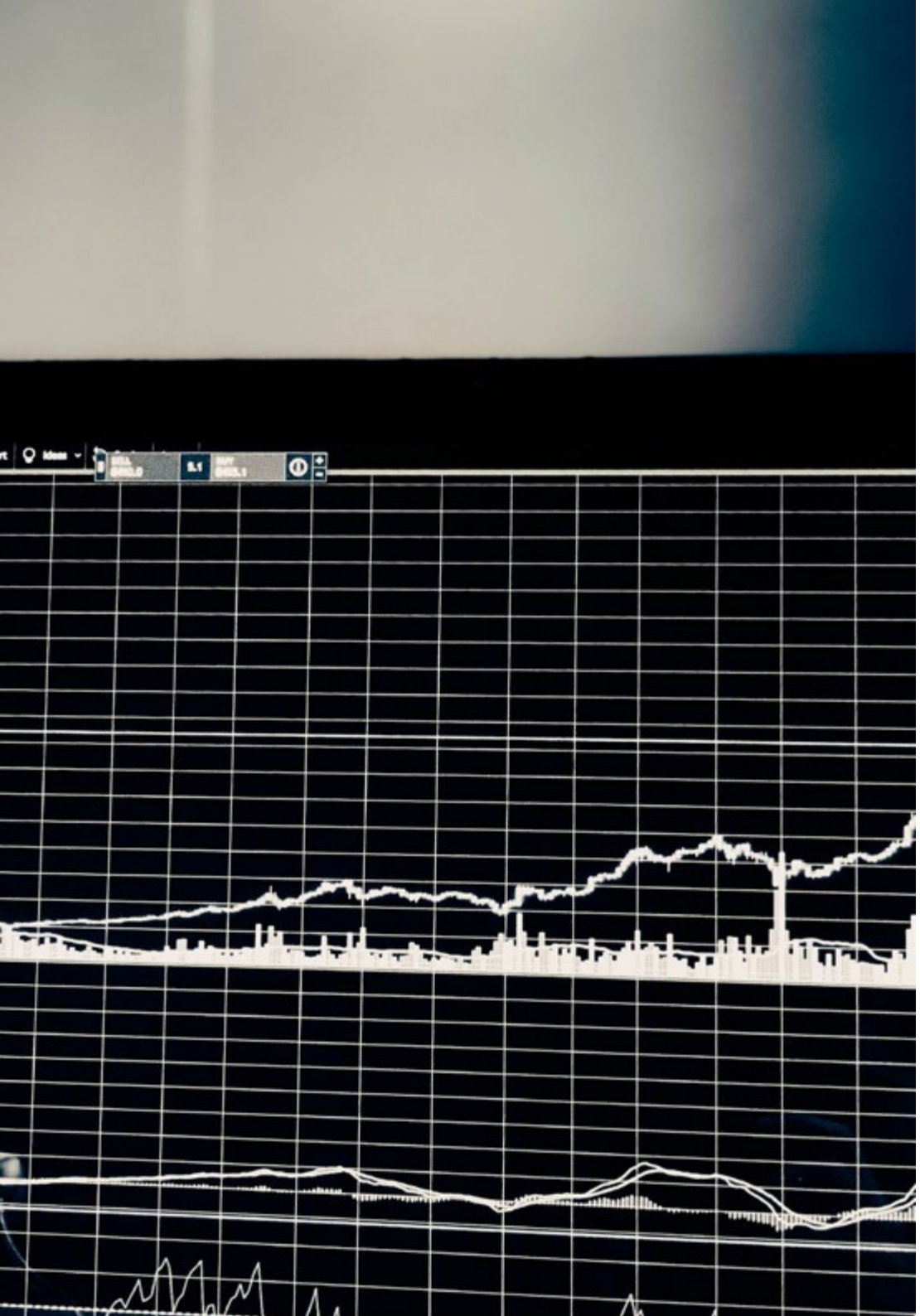
A unique opportunity to specialize in a highly-demanded and prestigious field with extensive future perspectives. Don't hesitate and enroll now"

Specific objectives

- Develop analytical skills in order to make quality decisions
- Examine effective marketing and communication campaigns
- Determine the creation of scorecards and KPIs according to the department
- Generate specialized knowledge to develop predictive analytics
- Unify diverse data: Achieving consistency of information
- Define what is meant by IoT (Internet of Things) and IIoT (Industrial Internet of Things)
- Review the Industrial Internet Consortium
- Generate specialized knowledge in data analysis and representation
- Examine the different types of grouped data
- Establish the most-used graphic representations in different fields
- Develop the skills to convert data into information from which knowledge can be extracted
- Determine the main features of a dataset, its structure, components and the implications of its distribution in the modeling
- Generate specialized knowledge about the statistical prerequisites for any data analysis and evaluation
- Develop the necessary skills for data identification, preparation and transformation
- Develop the formulation and basic properties of univariate time series models

- Examine the methodology of modeling and prediction of real time series
- Analyze the step from information to knowledge
- Develop the different types of machine learning
- Determine the requirements for mass data usage systems
- Examine different data models and analyze databases
- Analyze the key functionalities for distributed systems and their importance in different types of systems
- Analyze the state-of-the-art artificial intelligence (AI) and data analytics
- Develop analytical skills in changing environments
- Identify and focus on new scenarios and their opportunities
- Know the different theories for data analysis and interpretation
- Identify the most common descriptors for a dataset
- Design the joint strategy of statistical and artificial intelligence techniques for the development of descriptive and predictive systems applied to the reality of a dataset
- Understand the operation and characteristics of common mass data processing techniques
- 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
- Know the artificial intelligence techniques applicable for massively 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
- Know and develop the Drive profile applied to mass data environments
- Develop strategic communication and presentation techniques
- Know the different types of marketing and how they are applied in organizations and their influence on business strategies
- Understand how patterns found in a data set can be made visible in order to generate a common interpretation of the underlying reality
- Understand the process of Keim's visual analysis
- 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

03

Skills

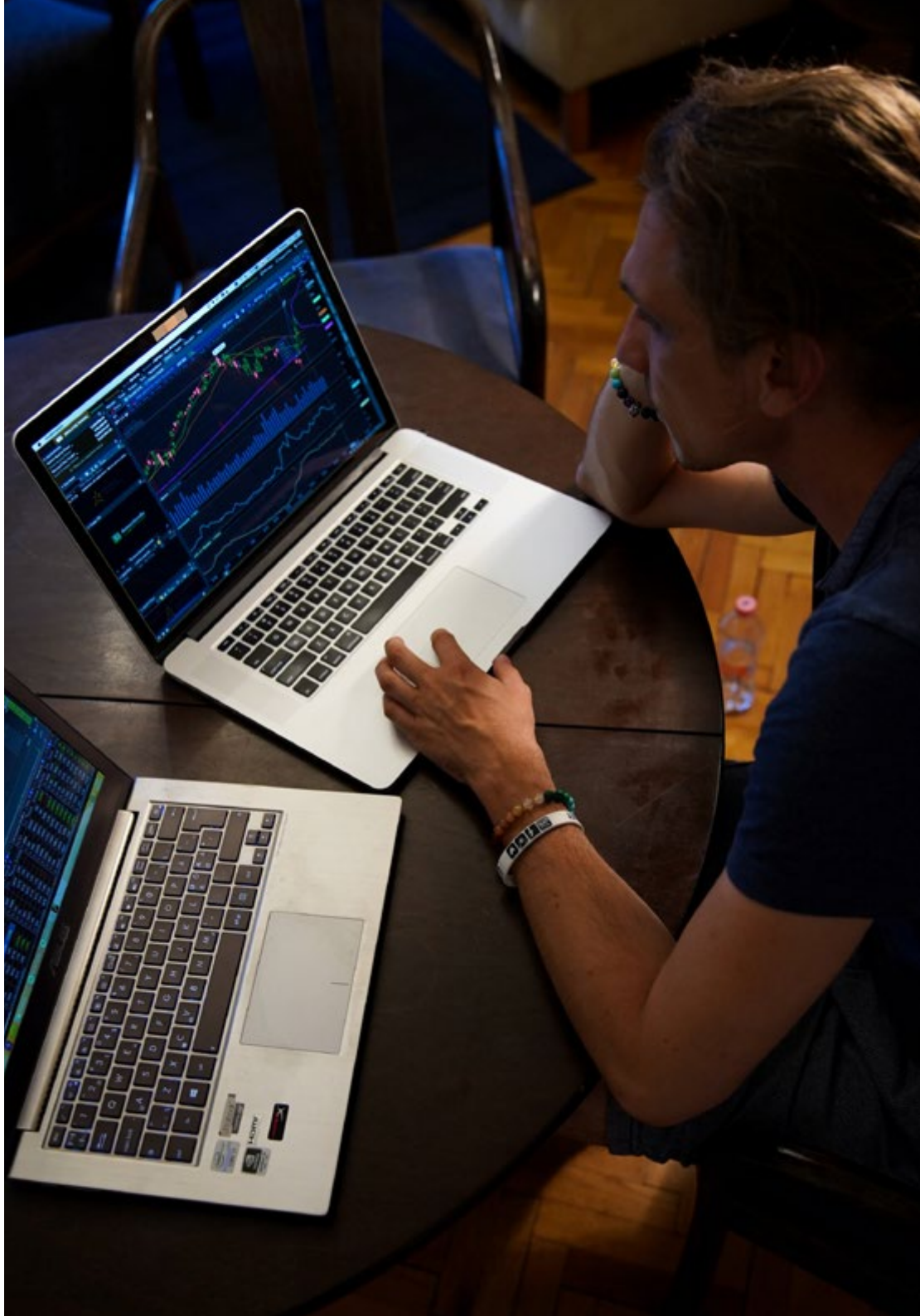
A data analyst working with Big Data must acquire many skills. They must be able to create a complex data collection and filtering system, with the possibility of adapting to different market realities and situations that may arise. In addition, they must have a broad business perspective with which to analyze the information and develop appropriate action plans for the feedback. Finally, they must also acquire leadership qualities with which to lead teams, as the data analyst will often be the one making or helping to make the most important decisions in any project.

By enrolling in this Advanced Master's Degree you will become an expert in Big Data, greatly improving your professional and technical skills"

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
- Develop a technical and business perspective of data analysis
- Understand the most current algorithms, platforms and tools for data exploration, visualization, manipulation, processing, and analysis
- Be able to address problems specific to data analysis

There will be no company in the sector that does not want to incorporate a professional with all these skills into its workforce. Open the door to a prosperous working future with this Advanced Master's Degree in Big Data Management"



Specific skills

- Specialize in Data Science from a technical and business perspective
- Visualize data in the most appropriate way to favor data sharing and understanding for different profiles
- Address the key functional areas of the organization where data science can deliver the most value
- Develop knowledge of the data life cycle, its typology and the technologies and phases necessary for its management
- Process and manipulate data using specific languages and libraries
- Develop advanced knowledge in fundamental data mining techniques for data selection, preprocessing and transformation
- Specialize in the main Machine Learning algorithms for the extraction of hidden knowledge in data
- Generate specialized knowledge in the software architectures and systems required for intensive data use
- Determine how the internet of things can be a source of data generation and key information on which to apply data science for knowledge extraction
- Analyze the different ways of applying data science in different sectors or verticals by learning from real examples
- 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
- Apply data engineering to marketing
- Make your company's data visible
- Use data visualization tools

04

Course Management

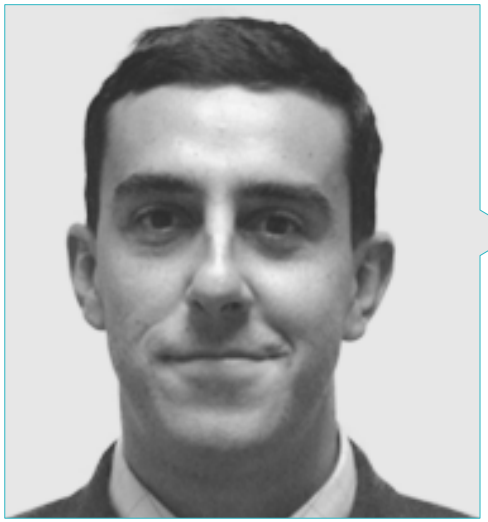
As the science of data analytics is complex and variable, TECH has designed this Advanced Master's Degree in Big Data Management by bringing together a team of experts and leading professionals in their field, with varied knowledge and skills in different fields of data analytics. In this way, students 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"

Management

Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO in AI Shephers GmbH
- CTO in Corporate Technologies
- Director of Design and Development at DocPath Document Solutions
- Computer Engineer from the University of Castilla La Mancha
- Doctorate in Psychology from the University of Castilla La Mancha
- PhD in Economics, Business and Finance from the Camilo José Cela University
- Master's Degree in Advanced Information Technologies from the University of Castilla La Mancha
- Master MBA+E (Master in Business Administration and Organizational Engineering) from the University of Castilla La Mancha



Mr. Galindo, Luis Ángel

- Senior High Performance Consultant with 16 years of experience
- Definition, development and implementation of a successful open innovation model, with +10% year-on-year revenue growth leveraged on innovative assets
- Definition, development and implementation of successful Digital Transformation Programs for more than 8 years and 700+ people leading a pioneering role in the industry
- Implementation of 20+ complex consulting projects worldwide for large companies in artificial intelligence, economic intelligence, cybersecurity, business development, digital transformation, risk assessment, process optimization and people management
- Expert in understanding customers and translating their needs into actual sales

Professors

Ms. Olmedo Soler, Asunta

- Creative Publicist Consultant UX writing and graphic design
- Freelancer for consulting firms, agencies and studios
- Copywriter in national and multinational advertising agencies, among other accounts: Santander Bank, Buena Vista, Canon, Coca-Cola, Maphre, Asisa, Prosegur, Camel, Ayuda en Acción, Casino Gran Madrid, La Razón, Amex, Airis, Rainbow
- Collaboration with different marketing and design companies (Imaginamass, Mibizpartners, WinWin consultants, We are Bold, Muebles Toscana, TeveoOnline, Bip Informáticos, The Mars Society, etc.)
- Communication Technician in Advertising and PR, National Institute of Specialized Techniques
- Master's Degree in Graphic Design Tracor Training Center
- Community Manager Course (Community Manager Institute)
- UX and Usability Course (MiriadaX, Coursea, Factor Ideas)
- Courses and workshops for Telefónica and the CAM

Ms. Álvarez de las Cuevas, Mónica

- Operations Manager in Mibiz Partners
- Team Project Management in Factor Ideas
- Training Coordinator, School of Technical Excellence at Accenture
- Project management with direct experience in the field of technical training and digital marketing solutions
- IT Engineer

Dr. Lominchar Jiménez, José

- MBA: Master of Business Administration (MBA)
- PhD in Law (Labor Law Program) (UCJC)
- Degree in Law (UCM) Spain
- Honorary PhD from the Legal Studies University Center in Mexico, 2018

Mr. Almansa, Antonio

- 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
- Design, implementation and integration of the Julian Camarillo DC contingency center

Ms. Cordero García, Marta

- University Professor, Polytechnic School of Madrid
- Aerospace Engineering Department: Mathematics Applied to Aerospace Engineering

Mr. García Montesinos , Felipe

- Founding Partner and President of KNOWDLE AI TECHNOLOGIES GROUP
- President promoter of the KNOWDLE CONSORTIUM GROUP ASSOCIATION
- Promoter and president of the KNOWDLE FOUNDATION & RESEARCH INSTITUTE with an ecosystem of startups in acceleration under the same technology of Collective Artificial Intelligence
- Degree in IT from the Polytechnic University of Madrid
- Doctoral Thesis on "Wisdom Collective Intelligence"

Mr. Armero Fernández, Rafael

- Business Intelligence Consultant at SDG Group
- Digital Engineer at Mi-GSO
- Logistics Engineer at Torrecid S.A
- 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 de Henares

Mr. Peris Morillo, Luis Javier

- Technical Director at Capitole Consulting
- Senior Technical Manager and Delivery Execution Support at HCL
- Agile Coach and Director of Operations at Mirai Advisory
- Developer, Team Leader, Scrum Master, Agile Coach and Product Manager at DocPath
- Higher Engineering in Computer Science from the ESI of Ciudad Real (UCLM)
- Postgraduate in Project Management from CEOE - Confederación Española de Organizaciones Empresariales (Spanish Confederation of Business Organisations)
- 50+ MOOCs taken, taught by renowned universities such as Stanford University, Michigan University, Yonsei University, Polytechnic University of Madrid, etc

Mr. Montoro Montarroso, Andrés

- Researcher in the SMILe Group at the University of Castilla La Mancha
- Data Scientist at Prometeus Global Solutions
- Graduate in Computer Engineering from the University of Castilla La Mancha, Specialist Course in Computer Science
- Master's Degree in Data Science and Computer Engineering from the University of Granada

Ms. Rissanen, Karoliina

- Responsible for the development of training programs and professional experience
- Human Resources Specialist at OySinebrychoff Ab (Carlsberg Group)
- Deputy Director of the departament of People, Performance and Development in IATA Global Delivery Center
- Assistant Director of Customer Service at IATA Global Delivery Center
- Training of customer service personnel
- Diploma in Tourism from Haaga-Helia University
- Master's Degree in Protocol and External Relations from Camilo José Cela University
- Diploma in Human Resources Management from Chartered Institute of Personnel and Development
- Trained and Certified as an instructor for IATA

Ms. Fernández Meléndez, Galina

- Data Analyst in Aresi and ADN Mobile Solutions
- Vice President of Credit at Banco Bicentenario
- Agricultural Credit Manager at Banco Agrícola de Venezuela
- Bachelor's Degree in Business Administration from Bicentenaria de Aragua-Caracas University
- Diploma in Planning and Public Finance from the Venezuelan School of Planning - School of Finance
- Master's Degree in Data Analysis and Business Intelligence from the University of Oviedo
- MBA from the European Business School of Barcelona
- Master's Degree in Big Data and Business Intelligence from the European Business School of Barcelona

Mr. Martín-Palomino Sahagún, Fernando
- CTO at AURA Diagnostics (medTech)
- Business Development Spain SARLIN, Industry 4.0 applied compressed air
- Operations Management Alliance Diagnostics
- Manager at Innovation Alliance Medical
- CIO at Alliance Medical
- Field Engineer & Digital Radiology Project Management at Kodak
- Head Telecommunications Engineer MBA at the Polytechnic University of Madrid
- Executive Master's Degree in Marketing and Sales at ESADE

Ms. Pedrajas Perabá, María Elena
- Business Analyst in Management Solutions in Madrid
- 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 Master's Degree in Data Science and Computer Engineering

Ms. Martínez Cerrato, Yésica
- Project Manager in the area of Key Account Integration at the Spanish Postal Service
- Computer Technician - Responsible for computer classrooms OTEC at the University of Alcalá
- Electronic Security Product Technician at Securitas Security Spain
- Head of Digital Transformation and Business Intelligence Analyst at Ricopia Technologies
- Computer classes teacher in ASALUMA Association

Mr. Fondón Alcalde, Rubén
- Customer Value Management Business Analyst at Vodafone Spain
- Head of Service Integration at Entelgy for Telefónica Global Solutions
- Online account manager for clone servers at EDM Electronics
- 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

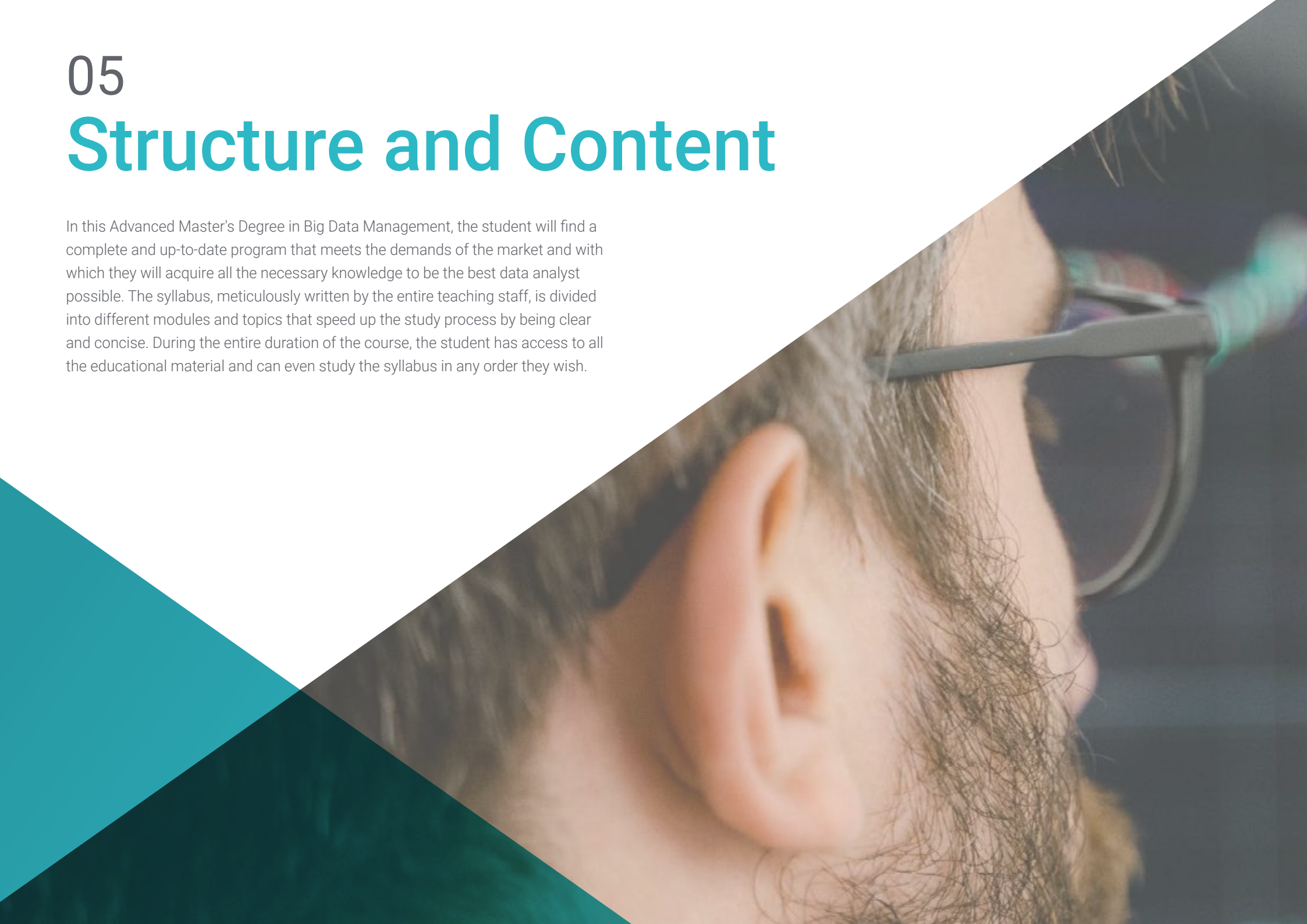
Mr. Díaz Díaz-Chirón, Tobías
- Researcher at the ArCO laboratory of the University of Castilla La Mancha, a group dedicated to projects related to computer architectures and networks
- Consultant at Blue Telecom, a company dedicated to the telecommunications sector
- Computer Engineer from the University of Castilla La Mancha

Mr. Tato Sánchez, Rafael
- Project Management and CTO at Indra Sistemas
- Head of the Control Center and Traffic Management in the Directorate General for Traffic in Madrid
- Systems Engineer in ENA Tráfico
- Degree in Industrial Electronics and Automation Engineering from the European University of Madrid
- Industrial Technical Engineer in Electricity from the Polytechnic University Madrid
- Master's Degree in Industry 4.0 from the International University of La Rioja

05

Structure and Content

In this Advanced Master's Degree in Big Data Management, the student will find a complete and up-to-date program that meets the demands of the market and with which they will acquire all the necessary knowledge to be the best data analyst possible. The syllabus, meticulously written by the entire teaching staff, is divided into different modules and topics that speed up the study process by being clear and concise. During the entire duration of the course, the student has access to all the educational material and can even study the syllabus in any order they wish.



You have access to the most complete and detailed Big Data syllabus on the market. By studying this course, you will learn everything you need to take your career towards the best job opportunities in data analysis"

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. Departmental Scorecards and KPIs
- 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 Framework in Marketing
- 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. HR and the Benefits of Data Analysis
- 1.8.2. Data Analytics Tools in the HR Department
- 1.8.3. Data Analytics Applications in the HR Department

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 R

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 Indices
- 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/Safety

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, Lists 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 vs. Discrete
- 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. "Classic" vs. Mass 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 ST
- 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 Forecast Methods
- 7.5.1. Media
- 7.5.2. Naïve
- 7.5.3. Seasonal Naïve
- 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 Regressiona and Non-Lineal 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 Index
- 9.3.2. Structured Log Storage
- 9.3.3. B-Tree

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. Processing of Offline Data
- 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 Broker
- 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 Health 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 Analysis 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. Education
- 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. Knowmads. 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. API Kafka
  15.9.5. Case Uses
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. Intriduction to Strategic Project Management
17.2. Best Practices in the Description of Big Data Processes
17.3. Kimball Methodology
17.4. SQuID Methodology
  17.4.1. Introduction to SQuID 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 SQuID in Big Data Projects
17.5. Legal Aspects in the World of Data
17.6. Big Data Privacy
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

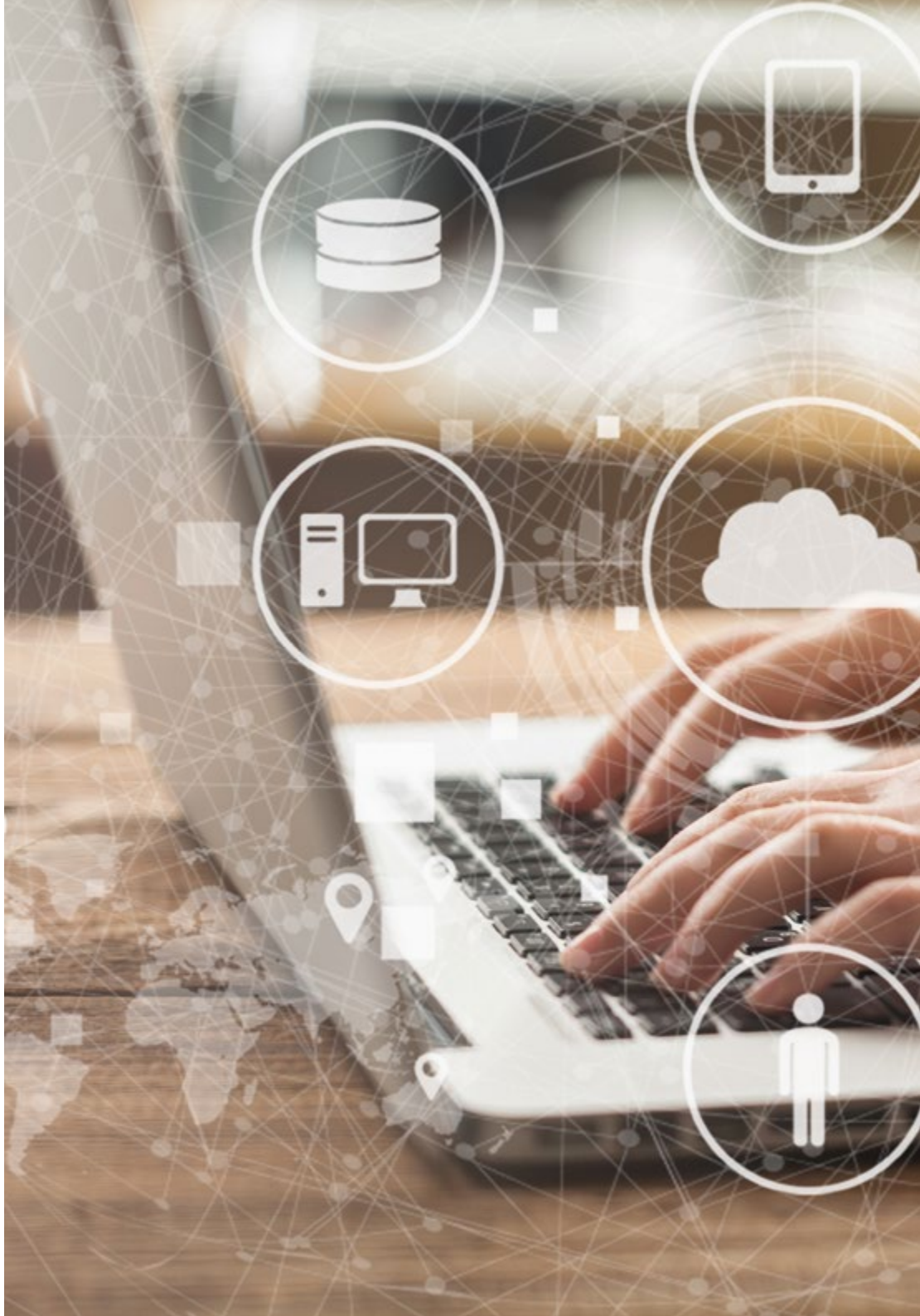
18.1. Concepts of Marketing. Strategic Marketing
18.2. Relationship Marketing
18.3. CRM as an Organizational Hub for Customer Analysis
18.4. Web Technologies
18.5. Web Data Sources
18.6. Acquisition of Web Data
18.7. Tools for the Extraction of Data from the Web
18.8. Semantic Web
18.9. OSINT: Open Source 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 do Storytelling with Data
19.3. Data Representation
19.4. Scalability of Visual Representations
19.5. Visual Analytics vs. Information Visualization. Understanding That its 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



Data analysis is the future of every field of innovation that you can imagine. Be a part of the future of society with this complete program in Big Data Management"

06

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

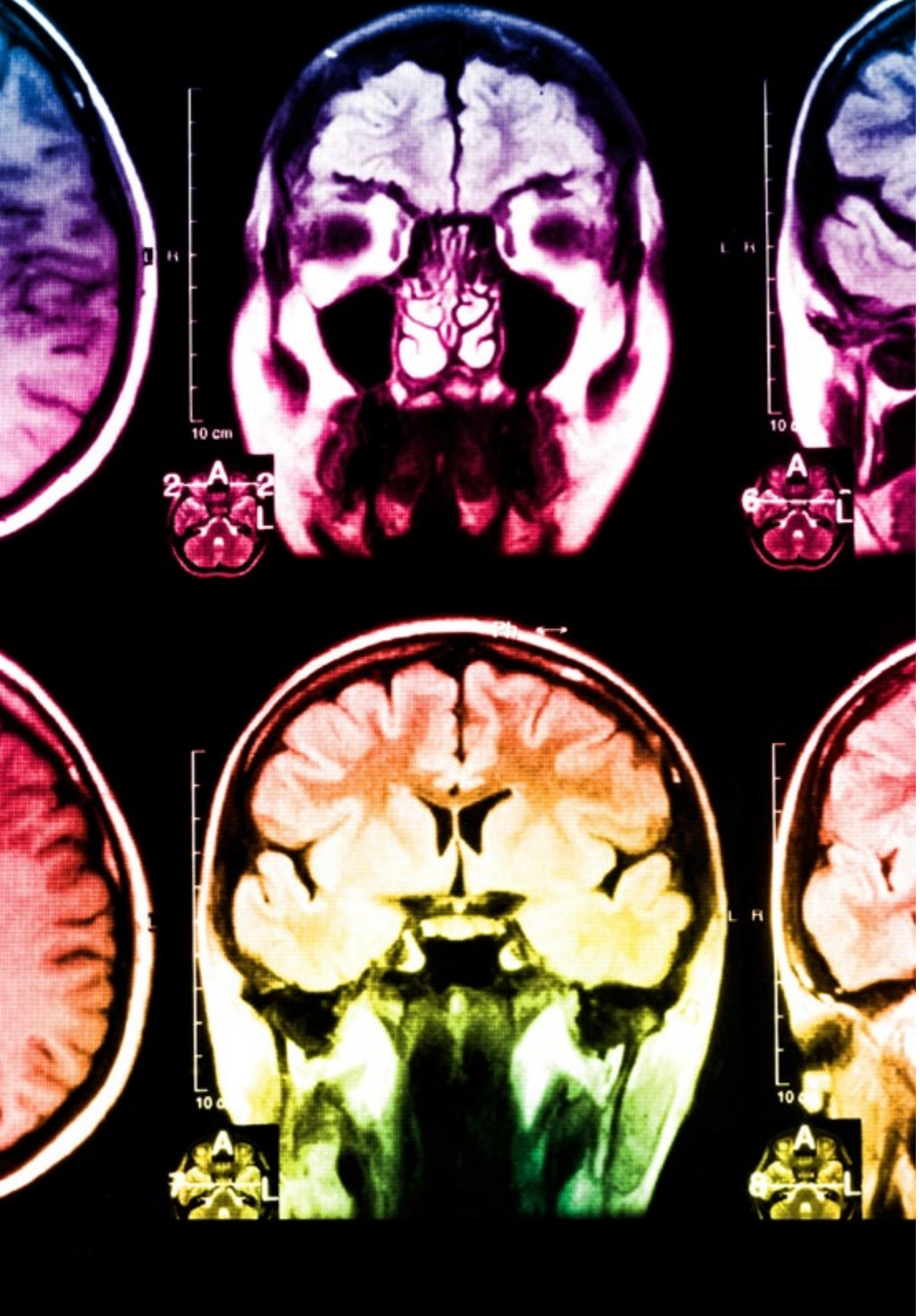
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.

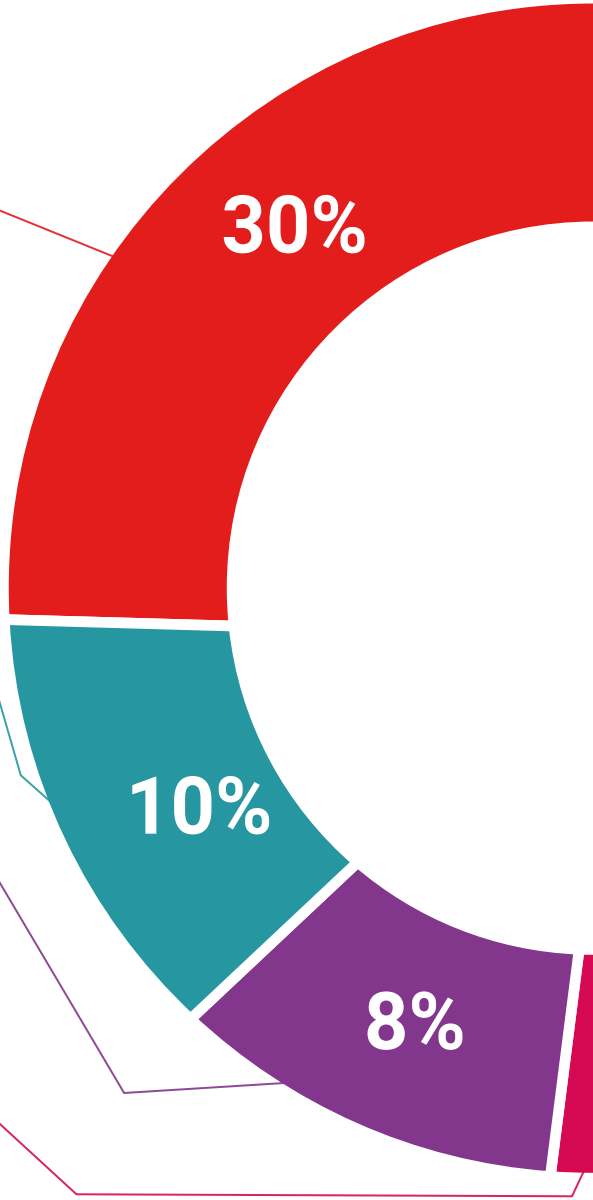
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

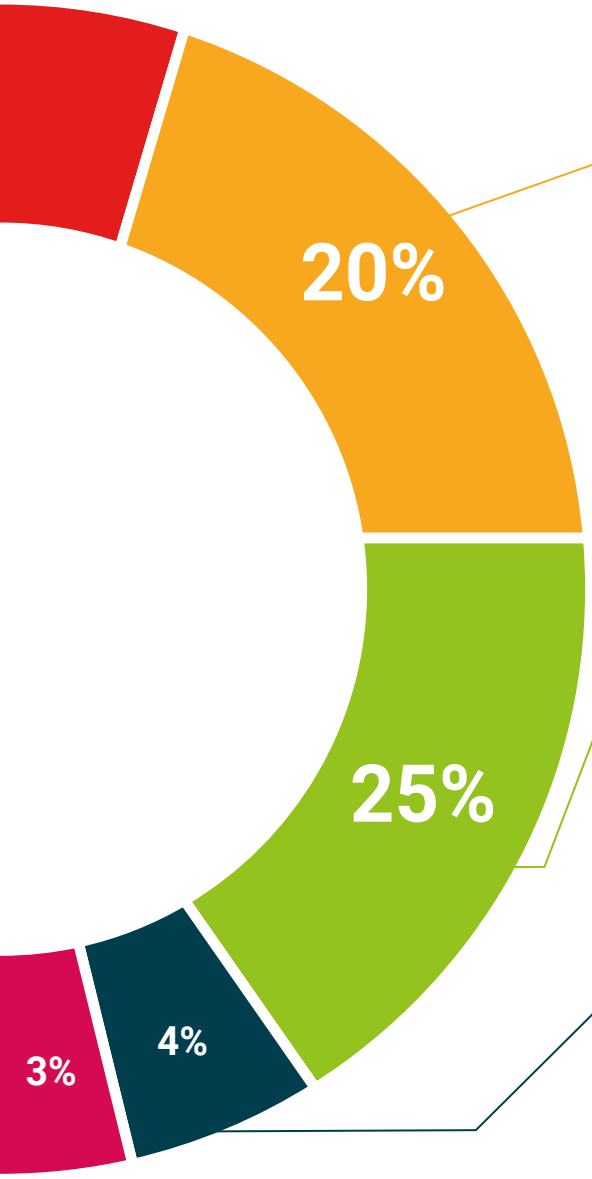
Practising Skills and Abilities

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.

07

Certificate

The Advanced Master's Degree in Big Data Management guarantees you, in addition to the most rigorous and up-to-date training, access to a Advanced Master's Degree issued by TECH Global University.

Successfully complete this program and receive your university degree without travel or laborious paperwork"

This program will allow you to obtain your **Advanced Master's Degree diploma in Big Data Management Big Data Management** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (***official bulletin***). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Advanced Master's Degree in Big Data Management**

Modality: **online**

Duration: **2 years**

Accreditation: **120 ECTS**


tech global university

Mr./Ms. _____, with identification document _____
has successfully passed and obtained the title of:

Advanced Master's Degree in Advanced Master's Degree in Big Data Management

This is a program of 3,000 hours of duration equivalent to 120 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

Unique TECH Code: AFWORD23S techtitute.com/certificates


Advanced Master's Degree in Big Data Management

General Structure of the Syllabus

Year	Subject	ECTS	Type
1º	Data Analysis in a Business Organization	6	CO
1º	Data Management, Data Manipulation and Information Management for Data Science	6	CO
1º	Devices and IoT Platforms as a Base for Data Science	6	CO
1º	Graphical Representation of Data Analysis	6	CO
1º	Data Science Tools	6	CO
1º	Data Mining. Selection, Pre-Processing and Transformation	6	CO
1º	Predictability and Analysis of Stochastic Phenomena	6	CO
1º	Design and Development of Intelligent Systems	6	CO
1º	Architecture and Systems for Intensive Use of Data	6	CO
1º	Practical Application of Data Science in Business Sectors	6	CO

Year	Subject	ECTS	Type
2º	Visual Analytics in the Social and Technological Context	6	CO
2º	Data Analysis and Interpretation	6	CO
2º	Data and AI Analysis Techniques	6	CO
2º	Data Analysis Tools	6	CO
2º	Database Management and Data Parallelization Systems	6	CO
2º	Data-Driven Soft Skills in Strategic Management in Visual Analytics	6	CO
2º	Strategic Management of Visual Analytics and Big Data Projects	6	CO
2º	Client Analysis. Applying Data Intelligence to Marketing	6	CO
2º	Interactive Visualization of Data	6	CO
2º	Visualization Tools	6	CO

Dr. Pedro Navarro Illana
Rector

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

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Advanced Master's Degree
Big Data Management

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

Advanced Master's Degree
Big Data Management

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