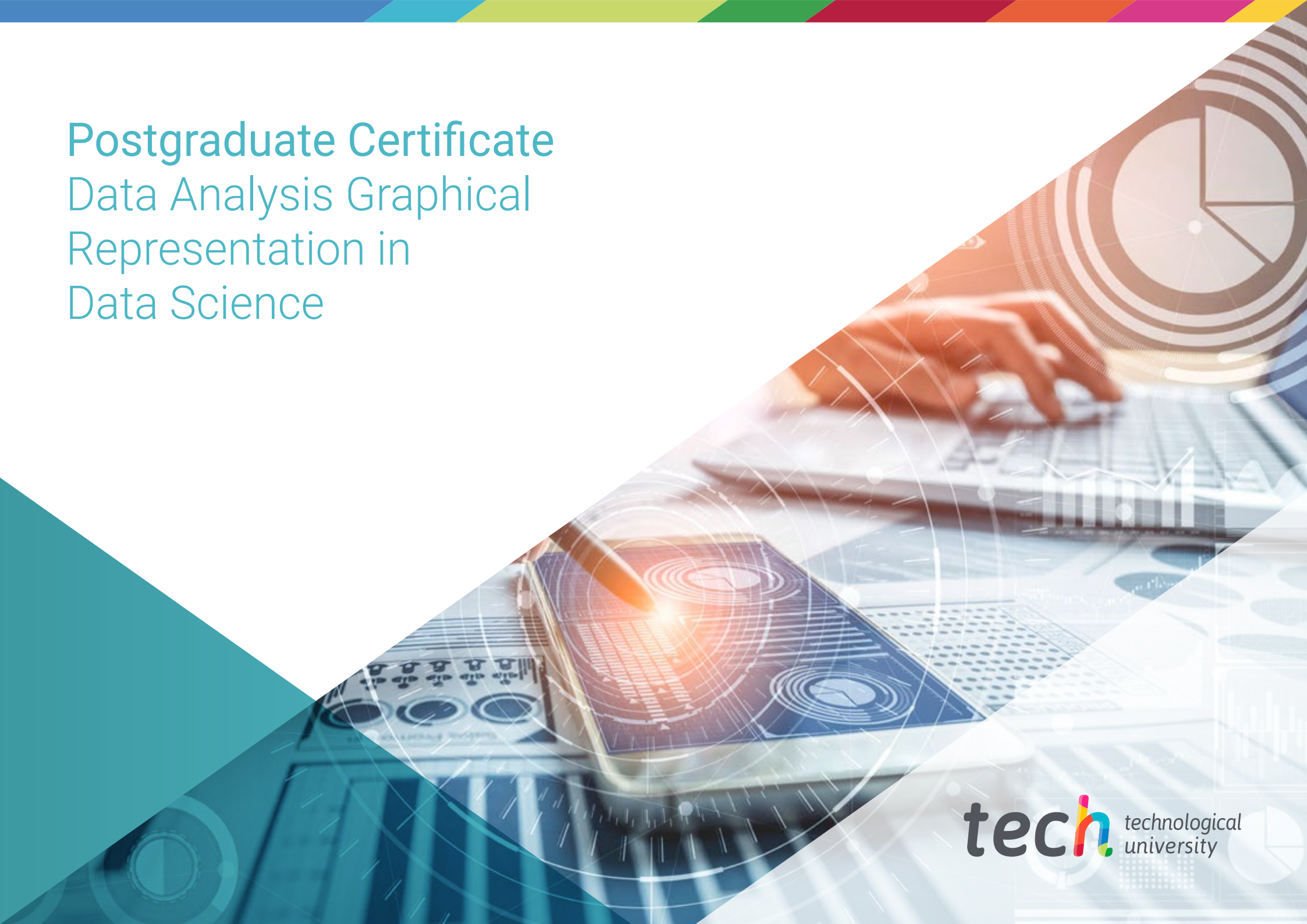
Postgraduate Certificate
Data Analysis Graphical Representation in Data Science



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Postgraduate Certificate
Data Analysis Graphical Representation in Data Science

- Modality: **online**
- Duration: **6 weeks**
- Certificate: **TECH Technological University**
- Dedication: **16h/week**
- Schedule: **at your own pace**
- Exams: **online**

Website: www.techtitute.com/pk/information-technology/postgraduate-certificate/data-analysis-graphical-representation-data-science

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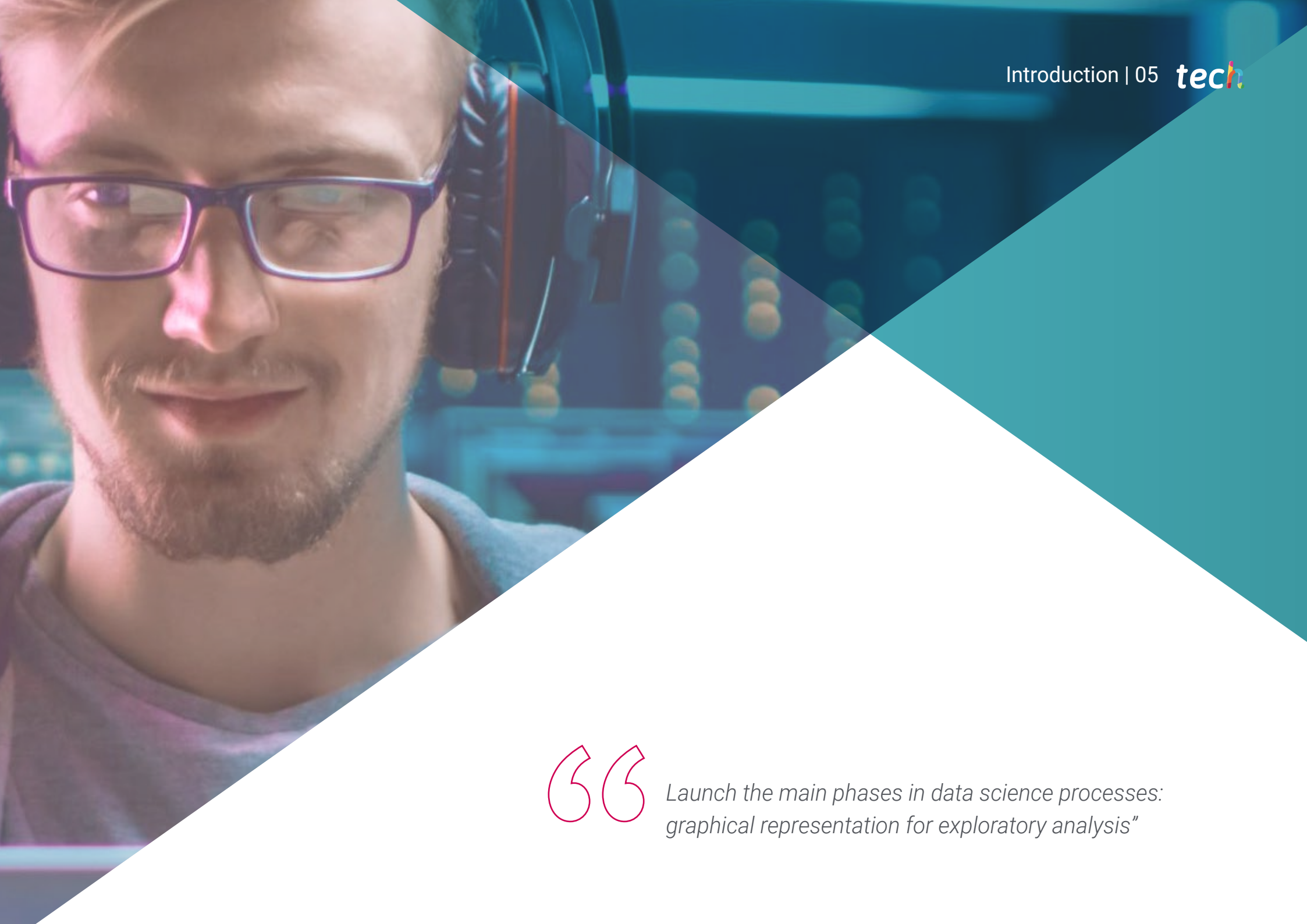
01

Introduction

Companies generate a large amount of data, which increases exponentially every year. As a result, it is difficult to analyze and visualize it all correctly. That is why computer engineers must be familiar with the different tools and techniques used to more efficiently analyze and interpret data. This program will lay the foundations to represent and interpret this information.



Launch the main phases in data science processes: graphical representation for exploratory analysis"

This Postgraduate Certificate will analyze the theoretical bases that help computer engineers to make the most appropriate graphical representations when using *Data Science* as an analytical technique. Therefore, special emphasis will be placed on the correct way to represent and interpret data in order to identify past errors or inefficient tactics to anticipate the future.

The entire program is composed of a series of case studies that will favor the learning of students who seek to further advance their professional careers and challenge themselves to achieve excellence. Consequently, it will present a series of cases that will illustrate new technologies for data visualization, such as intelligent systems or reality visualization systems.

All this will be feasible thanks to a 100% online program, which adapts to the daily needs of its students. You will only need a device with an Internet connection to start developing a complete professional profile with international projection.

This **Postgraduate Certificate in Data Analysis Graphical Representation in Data Science** contains the most complete and up to date academic program on the market. The most important features of the program include:

- Practical cases studies are presented by experts in Engineering 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 self assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- 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

All the subjects and areas of knowledge have been compiled in a complete and absolutely up to date syllabus, in order to bring the student to the highest theoretical and practical level"

Learn statistical, quantitative and technical knowledge in real situations through a 100% online program"

Tackle the different types of data, the most useful representations and the different data representation programs.

Analyze the different software tools for graphing and exploratory data analysis.

The program's teaching staff includes professionals from the sector who contribute their work experience to this training 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 immersive training programmed to train 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 during the academic year. For this purpose, the student will be assisted by an innovative, interactive video system created by renowned and experienced experts.

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Objectives

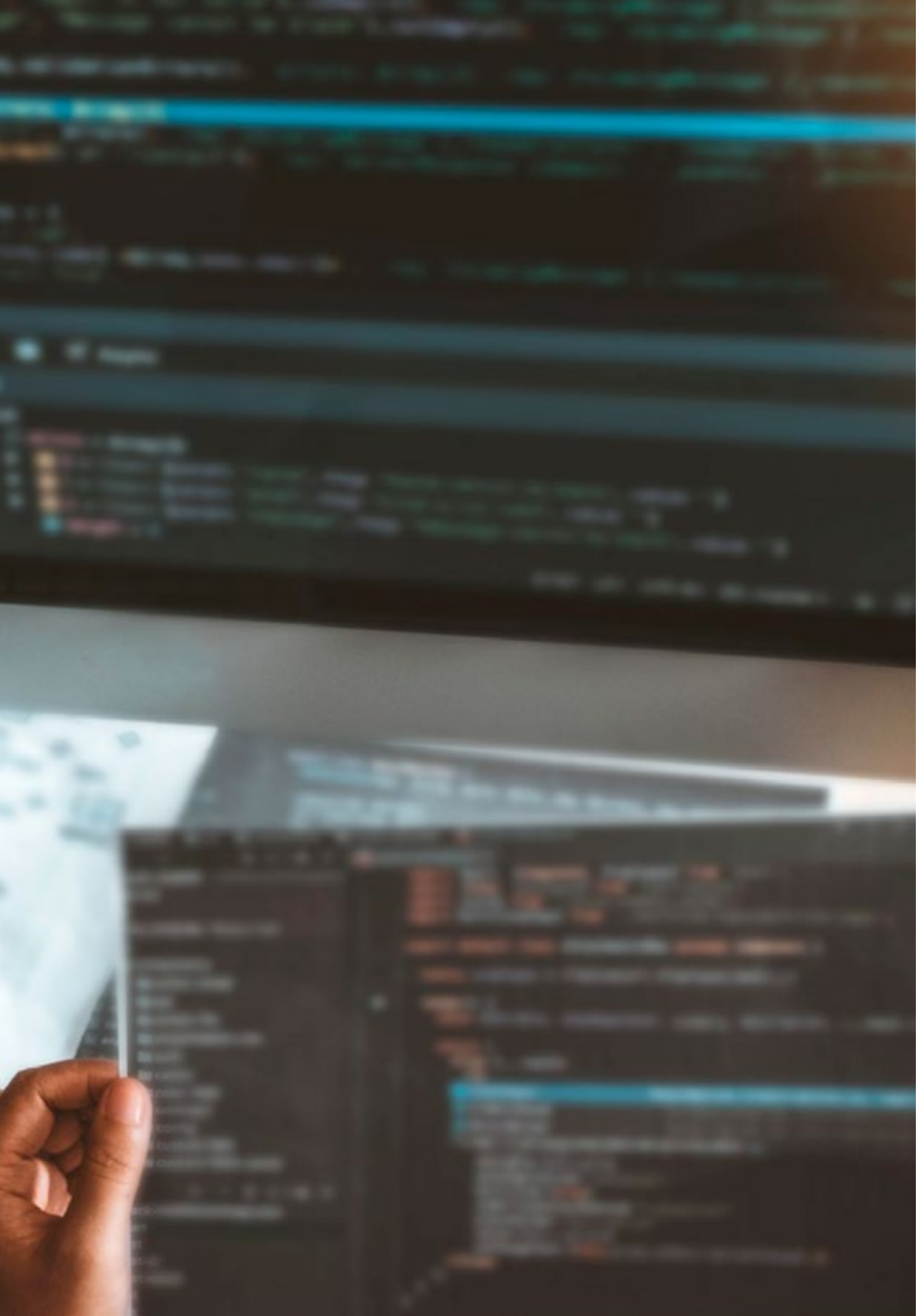
The knowledge provided on this program will help computer engineers deal with the different types of data, the most useful representations and the different data representation programs, consolidating themselves as an agent of change ready to offer new proposals. To that end, TECH has established the following general and specific objectives:

Determine the correct way to represent data to facilitate action plans that will improve company management"

General Objectives

- Analyze the benefits of applying data analytic techniques in every company department
- 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

Turn this program into your best academic investment and learn how to represent and interpret Dataset information"



Specific Objectives

- Generate specialized knowledge in data analysis and representation
- Examine the different types of grouped data
- Establish the most used graphic representations in different fields
- Determine the design principles in data visualization
- Introduce graphic narrative as a tool
- Analyze the different software tools for graphing and exploratory data analysis

03

Course Management

The Postgraduate Certificate in Data Analysis Graphical Representation in Data Science brings together a select group of professionals with multiple years of experience in data analysis in the field of business. Students are thus guaranteed that the knowledge imparted comes from professionals capable of answering any questions they may have while providing them with real cases to better exemplify the contents on the program.

You will at all times have the support of a distinguished faculty to answer all your questions"

Management

Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO at Korporate Technologies
- CTO in AI Shephers GmbH
- Doctorate in Psychology from the University of La Castilla
- PhD in Economics, Business and Finance from the Camilo José Cela University. Outstanding Award in her PhD
- PhD in Psychology, University of CastillaLa Mancha
- Master's Degree in Advanced Information Technologies from the University of Castilla la Mancha
- Master MBA+E (Master's Degree in Business Administration and Organisational Engineering) from the University of Castilla la Mancha
- Associate lecturer, teaching undergraduate and master's degrees in Computer Engineering at the University of Castilla la Mancha
- Professor of the Master in Big Data and Data Science at the International University of Valencia
- Lecturer of the Master's Degree in Industry 4.0 and the Master's Degree in Industrial Design and Product Development
- Member of the SMILe Research Group of the University of Castilla la Mancha

Professors

Ms. Martínez Cerrato, Yésica

- Electronic Security Product Technician at Securitas Security Spain
- Business Intelligence Analyst at Ricopia Technologies (Alcalá de Henares) Degree in Electronic Communications Engineering at the Polytechnic School, University of Alcalá
- Responsible for training new recruits on commercial management software (CRM, ERP, INTRANET), product and procedures in Ricopia Technologies (Alcalá de Henares)
- Responsible for training new scholarship holders incorporated to the Computer Classrooms at the University of Alcalá
- Project Manager in the area of Key Accounts Integration at Correos and Telégrafos (Madrid)
- Computer Technician-Responsible for computer classrooms OTEC, University of Alcalá (Alcalá de Henares)
- Computer instructor at ASALUMA Association, Alcalá de Henares
- Training scholarship as a Computer Technician at OTEC, University of Alcalá, Alcalá de Henares

04

Structure and Content

The program modules offer a theoretical and practical perspective to define the correct way to represent and interpret data, which will enable detecting past errors or deficient work methodologies. That way, students will be prepared to face new challenges and propose plans for the future. Consequently, the objectives of the program to train professional, integral and prestigious engineers will be fulfilled.

You can become the agent of change companies need by developing forward looking plans with Data Science"

Module 1. Data Analysis Graphical Representation

1.1. Exploratory Analysis
- 1.1.1. Representation for Information Analysis
- 1.1.2. The Value of Graphical Representation
- 1.1.3. New Paradigms of Graphical Representation

1.2. Optimization for Data Science
- 1.2.1. Color Range and Design
- 1.2.2. Gestalt in Graphic Representation
- 1.2.3. Errors to Avoid and Advice

1.3. Basic Data Sources
- 1.3.1. For Quality Representation
- 1.3.2. For Quantity Representation
- 1.3.3. For Time Representation

1.4. Complex Data Sources
- 1.4.1. Files, Lists and Databases
- 1.4.2. Open Data
- 1.4.3. Continuous Data Generation

1.5. Types of Graphs
- 1.5.1. Basic Representations
- 1.5.2. Block Representation
- 1.5.3. Representation for Dispersion Analysis
- 1.5.4. Circular Representations
- 1.5.5. Bubble Representations
- 1.5.6. Geographical Representations

1.6. Types of Visualization
- 1.6.1. Comparative and Relational
- 1.6.2. Distribution
- 1.6.3. Hierarchical

1.7. Report Design with Graphic Representation
- 1.7.1. Application of Graphs in Marketing Reports
- 1.7.2. Using Graphs in Scorecards and KPIs
- 1.7.3. Application of Graphs in Strategic Plans
- 1.7.4. Other Uses: Science, Health, Business

1.8. Graphic Narration
- 1.8.1. Graphic Narration
- 1.8.2. Evolution
- 1.8.3. Uses

1.9. Tools Oriented Towards Visualization
- 1.9.1. Advanced Tools
- 1.9.2. Online Software
- 1.9.3. *Open Source*

1.10. New Technologies in Data Visualization
- 1.10.1. Systems for Virtualization of Reality
- 1.10.2. Reality Enhancement and Improvement Systems
- 1.10.3. Intelligent Systems

Successful completion of this program will result in job and career enhancement for computer engineers”

05

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

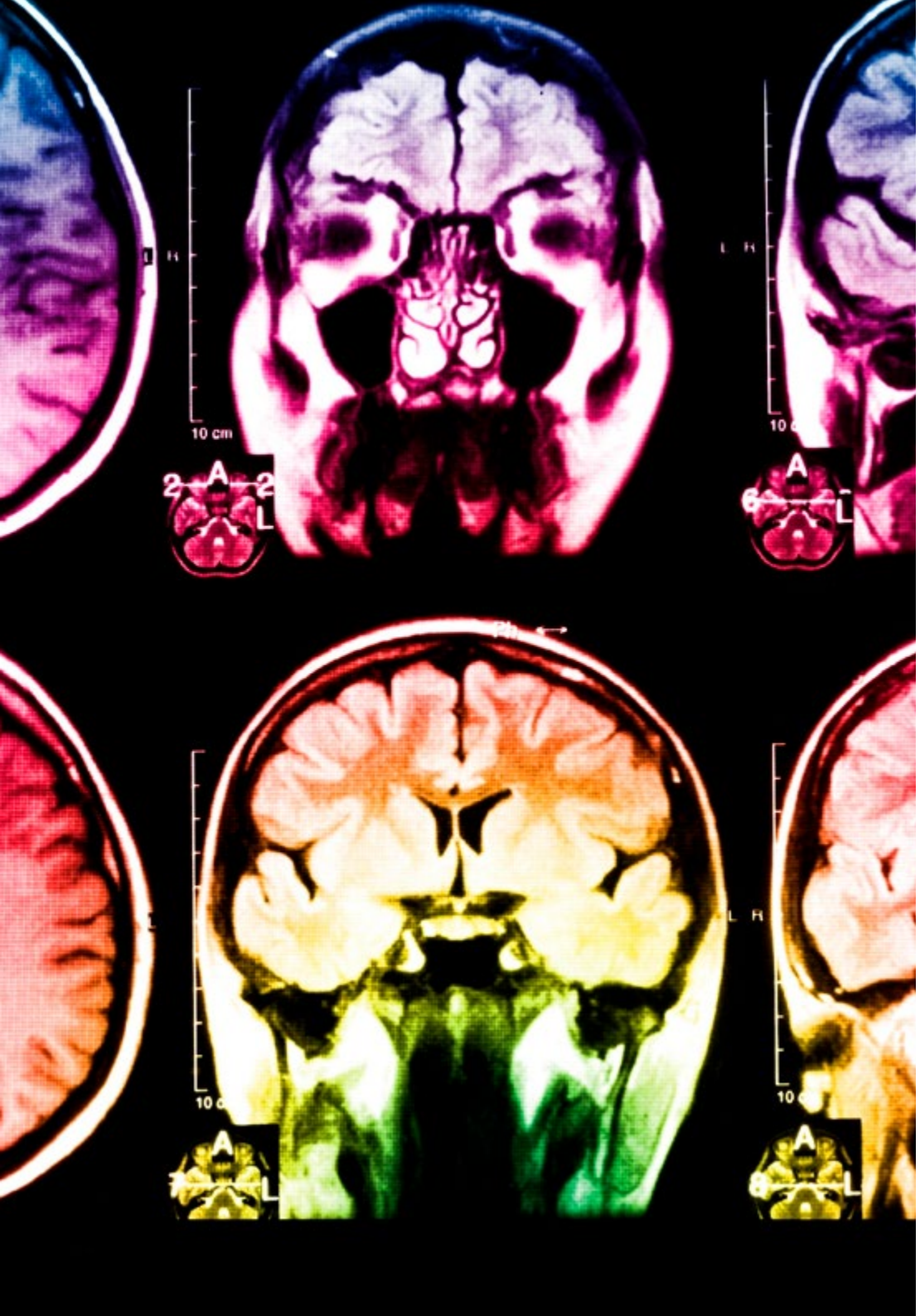
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.

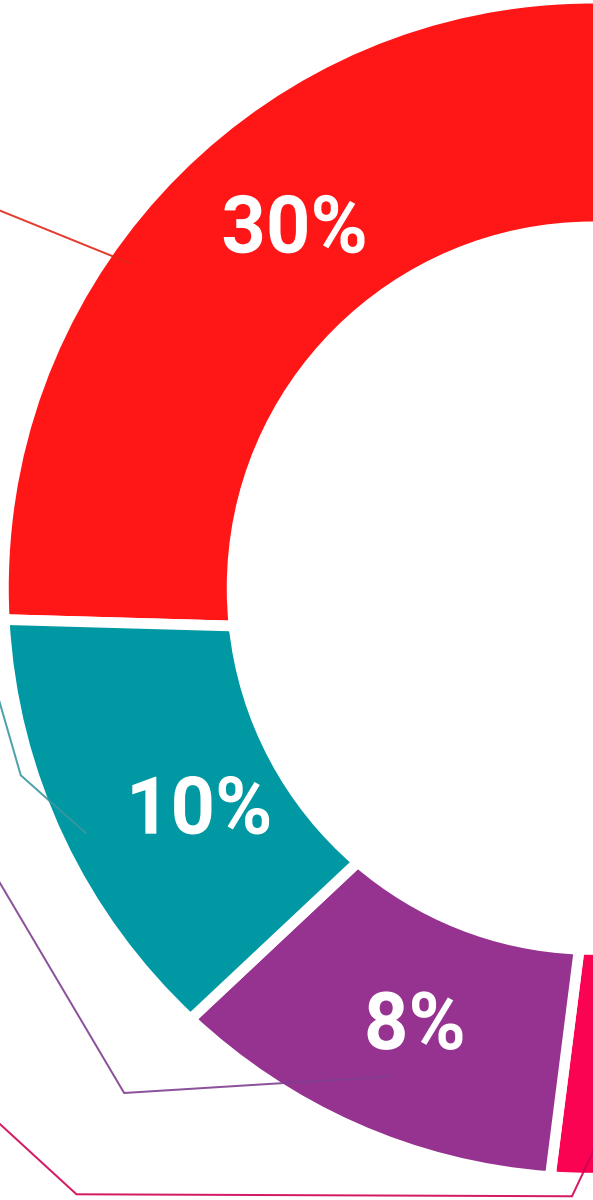
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

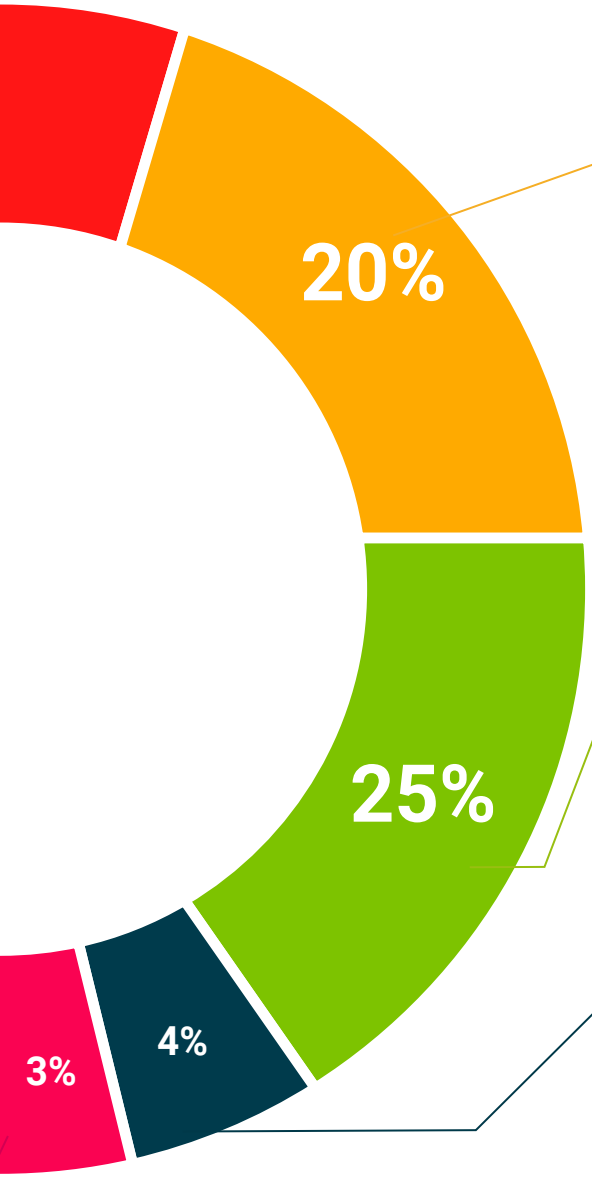
Practising Skills and Abilities

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.

06

Certificate

The Postgraduate Certificate in Data Analysis Graphical Representation in Data Science guarantees students, in addition to the most rigorous and up to date education, access to a Postgraduate Certificate issued by TECH Technological University.

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

This **Postgraduate Certificate in Data Analysis Graphical Representation in Data Science** contains the most complete and up to date program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** by tracked delivery*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by job markets, competitive professional career evaluation committees.

Title: **Postgraduate Certificate in Data Analysis Graphical Representation in Data Science**
Official Nº of hours: **150 h.**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Awards the following

CERTIFICATE

to

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

For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Data Analysis Graphical Representation in Data Science

This is a qualification awarded by this University, equivalent to 150 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

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country. Unique TECH Code: AFWORD23S techtitute.com/certificates

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

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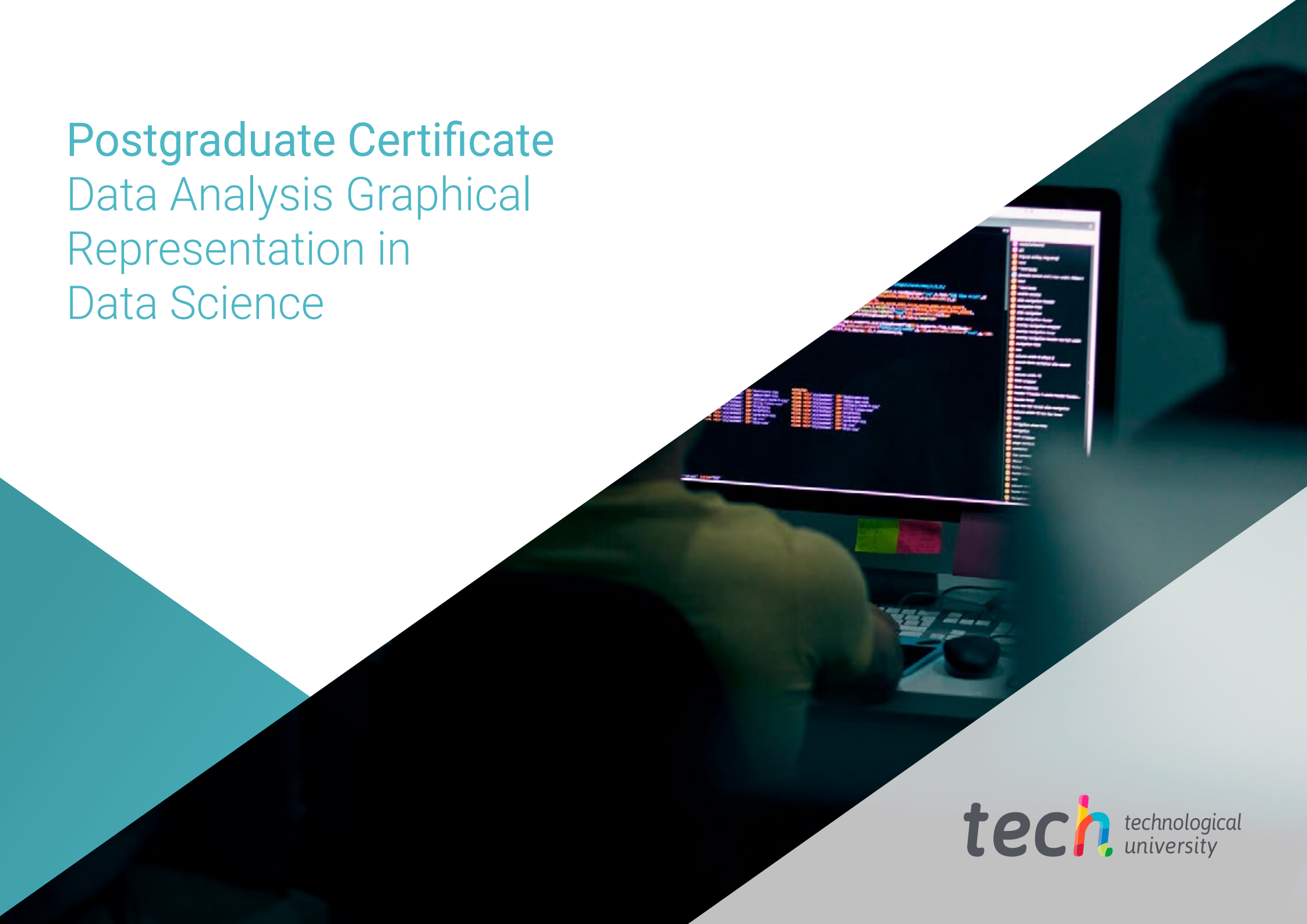

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