Postgraduate Certificate
Data Analysis Graphical Representation in Data Science

tech global university

Postgraduate Certificate
Data Analysis Graphical
Representation in
Data Science

- » Modality: **online**
- » Duration: **6 weeks**
- » Certificate: **TECH Global University**
- » Credits: **6 ECTS**
- » Schedule: **at your own pace**
- » Exams: **online**
- » Target Group: **University graduates and postgraduates who have completed a degree in computer engineering.**

Website: **www.techtitute.com/us/school-of-business/postgraduate-certificate/data-analysis-graphical-representation-data-science**

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01
Welcome

It is undeniable the enormous amount of data that a company generates, increasing every year. This makes it difficult for managers and engineers to analyze and interpret them. This program will show some viable alternatives to this problem, helping students to develop critical and managerial skills to choose an appropriate method for the company. In this way, and using practical cases, we will begin an analysis of the theoretical foundations of Data Science and then carry out a study of the different graphical representations and how to visualize them.

Postgraduate Certificate in Data Analysis Graphical Representation in Data Science.
TECH Global University

tech

" *Apply the principles of Gestalt to the graphic representation of data and become a reference for your company"*

02
Why Study at TECH?

TECH is the world's largest 100% online business school. It is an elite business school, with a model based on the highest academic standards. A world-class centre for intensive managerial skills training.

TECH is a university at the forefront of technology, and puts all its resources at the student's disposal to help them achieve entrepreneurial success"

At TECH Global University

Innovation

The university offers an online learning model that combines the latest educational technology with the most rigorous teaching methods. A unique method with the highest international recognition that will provide students with the keys to develop in a rapidly-evolving world, where innovation must be every entrepreneur's focus.

"Microsoft Europe Success Story", for integrating the innovative, interactive multi-video system.

The Highest Standards

Admissions criteria at TECH are not economic. Students don't need to make a large investment to study at this university. However, in order to obtain a qualification from TECH, the student's intelligence and ability will be tested to their limits. The institution's academic standards are exceptionally high...

95% of TECH students successfully complete their studies

Networking

Professionals from countries all over the world attend TECH, allowing students to establish a large network of contacts that may prove useful to them in the future.

100,000+ executives trained each year

200+ different nationalities

Empowerment

Students will grow hand in hand with the best companies and highly regarded and influential professionals. TECH has developed strategic partnerships and a valuable network of contacts with major economic players in 7 continents.

500+ collaborative agreements with leading companies

Talent

This program is a unique initiative to allow students to showcase their talent in the business world. An opportunity that will allow them to voice their concerns and share their business vision.

After completing this program, TECH helps students show the world their talent.

Multicultural Context

While studying at TECH, students will enjoy a unique experience. Study in a multicultural context. In a program with a global vision, through which students can learn about the operating methods in different parts of the world, and gather the latest information that best adapts to their business idea.

TECH students represent more than 200 different nationalities.

TECH strives for excellence and, to this end, boasts a series of characteristics that make this university unique:

Analysis

TECH explores the student's critical side, their ability to question things, their problem-solving skills, as well as their interpersonal skills.

Academic Excellence

TECH offers students the best online learning methodology. The university combines the Relearning method (a postgraduate learning methodology with the highest international rating) with the Case Study. A complex balance between tradition and state-of-the-art, within the context of the most demanding academic itinerary.

Economy of Scale

TECH is the world's largest online university. It currently boasts a portfolio of more than 10,000 university postgraduate programs. And in today's new economy, **volume + technology = a ground-breaking price**. This way, TECH ensures that studying is not as expensive for students as it would be at another university.

Learn with the best

In the classroom, TECH's teaching staff discuss how they have achieved success in their companies, working in a real, lively, and dynamic context. Teachers who are fully committed to offering a quality specialization that will allow students to advance in their career and stand out in the business world.

Teachers representing 20 different nationalities.

At TECH, you will have access to the most rigorous and up-to-date case studies in the academic community"

03
Why Our Program?

Studying this TECH program means increasing the chances of achieving professional success in senior business management.

It is a challenge that demands effort and dedication, but it opens the door to a promising future. Students will learn from the best teaching staff and with the most flexible and innovative educational methodology.

" We have highly qualified teachers and the most complete syllabus on the market, which allows us to offer you training of the highest academic level"

This program will provide students with a multitude of professional and personal advantages, particularly the following:

01

A significant career boost

By studying at TECH, students will be able to take control of their future and develop their full potential. By completing this program, students will acquire the skills required to make a positive change in their career in a short period of time.

70% of participants achieve positive career development in less than 2 years.

02

Develop a strategic and global vision of companies

TECH offers an in-depth overview of general management to understand how each decision affects each of the company's different functional areas.

Our global vision of companies will improve your strategic vision.

03

Consolidate the student's senior management skills

Studying at TECH means opening the doors to a wide range of professional opportunities for students to position themselves as senior executives, with a broad vision of the international environment.

You will work on more than 100 real senior management cases.

04

Take on new responsibilities

The program will cover the latest trends, advances and strategies, so that students can carry out their professional work in a changing environment.

45% of graduates are promoted internally.

05

Access to a powerful network of contacts

TECH connects its students to maximize opportunities. Students with the same concerns and desire to grow. Therefore, partnerships, customers or suppliers can be shared.

You will find a network of contacts that will be instrumental for professional development.

06

Thoroughly develop business projects

Students will acquire a deep strategic vision that will help them develop their own project, taking into account the different areas in companies.

20% of our students develop their own business idea.

07

Improve soft skills and management skills

TECH helps students apply and develop the knowledge they have acquired, while improving their interpersonal skills in order to become leaders who make a difference.

Improve your communication and leadership skills and enhance your career.

08

Be part of an exclusive community

Students will be part of a community of elite executives, large companies, renowned institutions, and qualified professors from the most prestigious universities in the world: the TECH Global University community.

We give you the opportunity to train with a team of world renowned teachers.

04
Objectives

The main objective of this program is to prepare computer engineers to face a series of work situations that require the presentation of a bank of summarized and organized data. This skill will be their stepping stone to a managerial position within the technology department.

Graphical representation of the data provides better readability and interpretation"

TECH makes the goals of their students their own goals too.
Working together to achieve them.

Postgraduate Certificate in Data Analysis Graphical Representation in Data Science qualifies students to:

01 Carry out the main phases of a Data Science process, the graphical representation of data for exploratory analysis

02 Develop the theoretical basis for the most appropriate graphical representations for the application of Data Science techniques

03 Examine the most commonly used types of representation and the most widespread commercial software applications in the business world

04 Generate specialized knowledge in data analysis and representation

05   Examine the different types of grouped data

06   Establish the most-used graphic representations in different fields

07   Determine the design principles in data visualization

08   Introduce graphic narrative as a tool

05
Structure and Content

The content of the Postgraduate Certificate in Data Analysis Graphical Representation in Data Science is designed to meet the needs of the student. To this end, a unique group of experts is available to help engineers develop their maximum potential in their work environment.

"Data is constantly transforming and changing. With this program you will learn to represent and analyze it"

Syllabus

The Postgraduate Certificate in Data Analysis Graphical Representation in Data Science at TECH Global University will become a complete experience that will help students to generate specialized knowledge in data representation and analytics.

This program has been designed to promote the managerial skills that all computer engineers must possess if they wish to advance in their careers.

For this reason, in each class you will have the opportunity to learn, through case studies, the indispensable tools for the graphical representation of information. For this purpose, you will also have access to different modalities such as "Exploratory Data Analysis" or the theoretical foundations of Gestalt.

By means of practical cases, students will have a much better understanding of the knowledge imparted. In turn, they will be encouraged to achieve excellence in the field of leadership and management of a technology department in a company. They will understand the needs of the business and be able to propose new and innovative strategies.

This Postgraduate Certificate takes place over 6 weeks with 1 module of study:

| Module 1 | Graphical Representation of Data Analysis |

Where, When and How is it Taught?

TECH offers the possibility of developing this Postgraduate Certificate in Data Analysis Graphical Representation in Data Science completely online. Over the course of 6 weeks, you will be able to access all the contents of this program at any time, allowing you to self-manage your study time.

A unique, key, and decisive educational experience to boost your professional development and make the definitive leap.

Module 1. Graphical Representation of Data Analysis

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. Application of 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

"Surpass your objectives and learn which are the new technologies that help to visualize the information of a company"

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"

TECH Business School uses the 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"*

This program prepares you to face business challenges in uncertain environments and achieve business success.

A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch to present executives with challenges and business decisions at the highest level, whether at the national or international level. 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 business reality is taken into account.

> *You will learn, through collaborative activities and real cases, how to solve complex situations in real business environments"*

The case method has been the most widely used learning system among the world's leading business 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 we face in the case method, an action-oriented learning method. Throughout the program, the studies will be presented with multiple real cases. They must integrate all their knowledge, research, argue and defend their ideas and decisions.

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

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.

Our online system will allow you to organize your time and learning pace, adapting it to your schedule. You will be able to access the contents from any device with an internet connection.

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 online business school is the only one in the world licensed to incorporate 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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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. With this methodology we have 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, markets, and financial 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 specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to 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.

Management Skills Exercises

They will carry out activities to develop specific executive competencies in each thematic area. Practices and dynamics to acquire and develop the skills and abilities that a high-level manager needs to develop in the context of the globalization we live in.

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.

30%

10%

8%

3%

30%

15%

4%

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 senior management 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.

Our Students' Profiles

The TECH graduates are professionals capable of facing any work challenge. Being analytical, critical and ingenious, they are able to propose innovative solutions in their work team. This makes them capable of leading a work team of excellence. Therefore, this program is designed for computer engineers who are looking to go a step further in their careers.
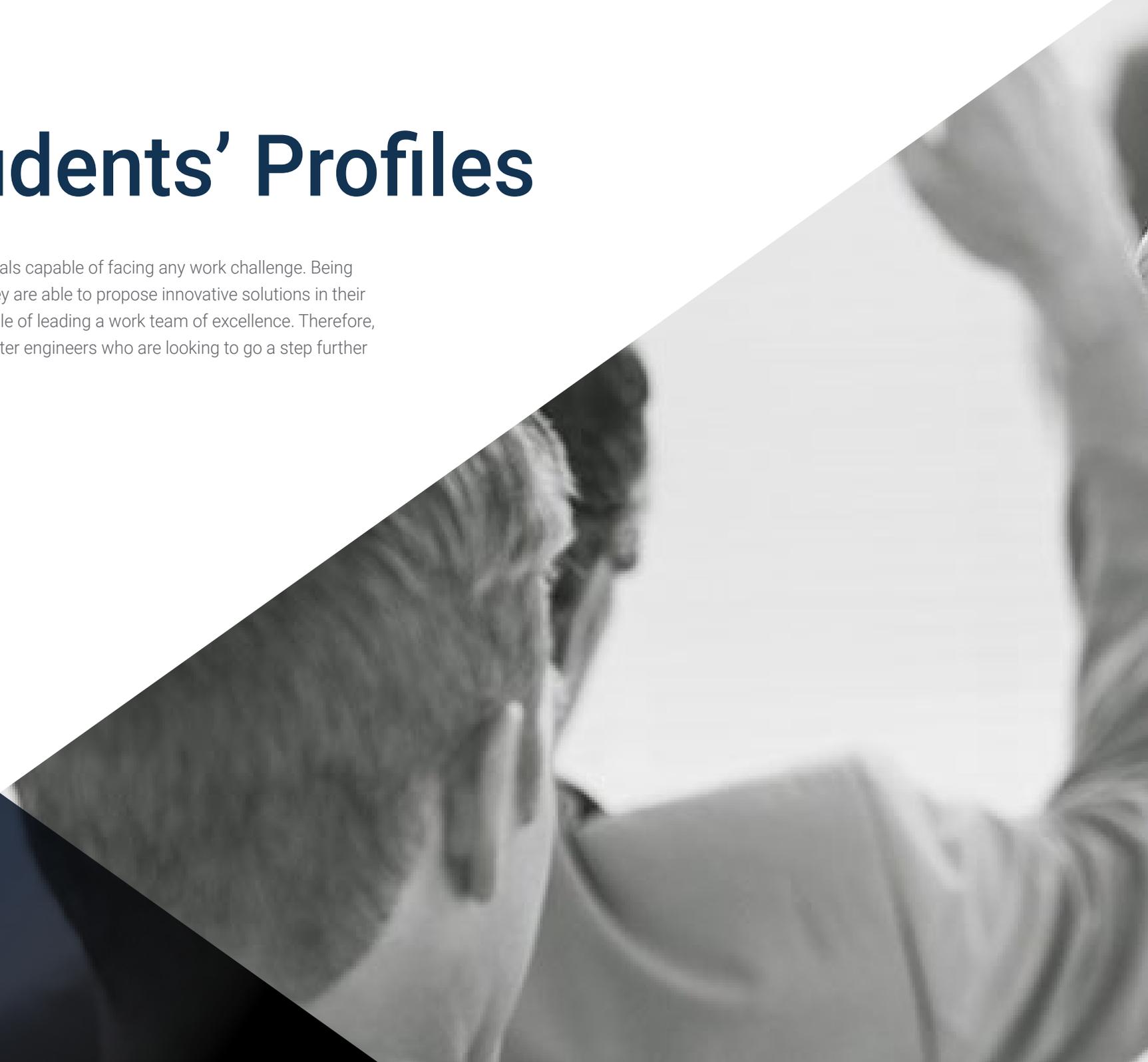
*Show your talent and leadership. Don't get left behind and learn with us"*

Average Age

Between **35** and **45** years old

Training

Engineering **52%**
Business **32%**
Social Sciences **11%**
Economics **5%**

Years of Experience

12 - 13 years **15.2%**
14+ years **7.7%**
5 years **9.4%**
10 - 11 years **18.7%**
6 - 7 years **22.7%**
8 - 9 years **26.3%**

Academic Profile

Operations **20%**
Project Management **18%**
Sales and Marketing **17%**
Finance **15%**
General Management **15%**
Consulting **9%**
Planning and Accounting **6%**
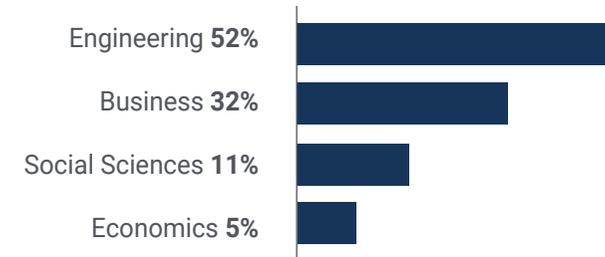
Geographical Distribution

USA **5%**

Spain **44%**

Brazil **4%**

Mexico **14%**

Colombia **8%**

Argentina **7%**

Chile **4%**

Peru **8%**

Ecuador **4%**

Dominican Republic **2%**
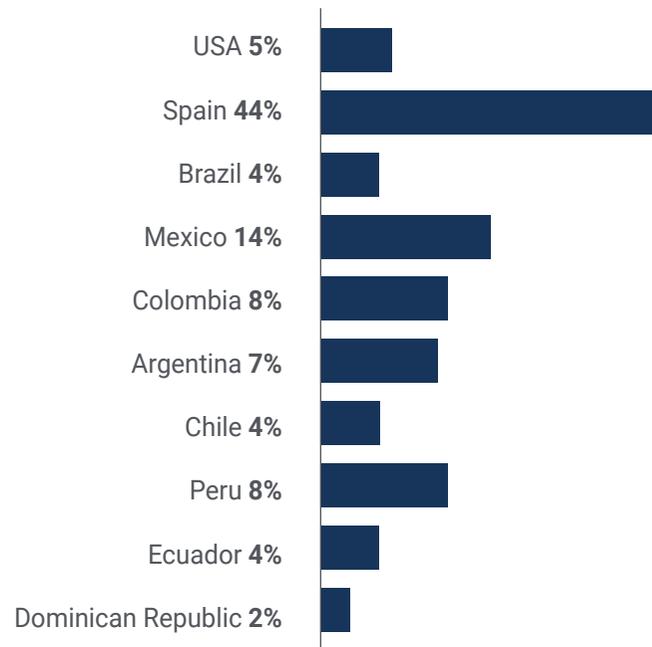
Samuel Giral

IT Team Leader

"Correctly representing information and data is fundamental to grow any department in a company. Showing them in an "understandable" way requires knowing certain techniques and tools that this course provides. For this reason, this program has meant a radical change in my career, I recommend it, in addition, for its online modality"

Course Management

This Postgraduate Certificate has a select group of experts with multiple years of experience in data development and analysis. Together, they have created a program that will enhance the students' skills in a practical and educational way.

Learn from the best and you will see that you receive the recognition you deserve as a top-notch leader"

International Guest Director

Dr. Tom Flowerdew is an internationally prominent personality in the field of data science. He has served as Vice President of Data Science at MasterCard in London. In this role, he has been responsible for the preparation, operation and strategy of a consolidated team in this area, with the mission to support a portfolio of innovative products in payments, fight against money laundering (AML) and analyze cryptocurrency use cases.

He has also been Director of Data Science in Cyber Intelligence Solutions, also at MasterCard, where he has led the integration of data to support revolutionary cryptocurrency-based products. In fact, his ability to handle complex data and develop advanced solutions has been instrumental to the success of multiple projects in the cybersecurity and finance space.

Similarly, for the company Featurespace, he has held several crucial roles, including Head of Standardized Product Delivery, in Cambridge, leading a team and a transformation project that has reduced delivery time and effort by more than 75%. In addition, as Head of Delivery, U.S. headquarters, he has managed all of the company's North American delivery functions, significantly improving operational efficiency and strengthening customer relationships.

Additionally, Doctor Tom Flowerdew has demonstrated his ability to build and lead high-performing teams throughout his career, most notably in his role as Data Scientist, both in Atlanta, where he has recruited and managed a group of experts in the field, and in Cambridge. In this way, his focus on innovation and problem solving has left an indelible mark on the organizations where he has worked, establishing himself as an influential leader in the field of data science.
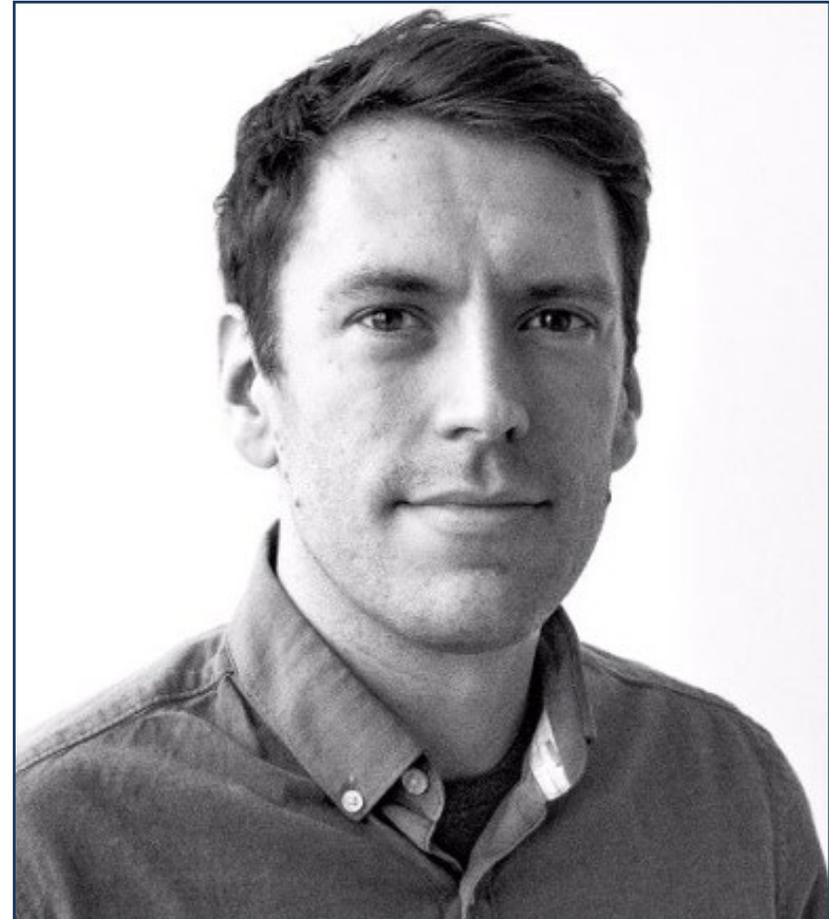
Dr. Flowerdew, Tom

- Vice President of Data Science at MasterCard, London, United Kingdom
- Director of Data Science, Cyber Intelligence Solutions, MasterCard, London
- Head of Standardized Product Delivery at Featurespace, Cambridge
- Delivery Manager for United States, at Featurespace, Cambridge
- Data Scientist at Featurespace, Atlanta, Georgia, United States
- Data Scientist at Featurespace, Cambridge
- Research Fellow in Statistics and Operations Research at the University of Lancaster
- Ph.D. in Operations Research from Lancaster University
- B.S. in Systems Engineering from BAE Systems
- B.Sc. in Mathematics from the University of York

"

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

Management

Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO en Corporate Technologies in Corporate Technologies
- CTO in AI Shephers GmbH
- Doctorate in Psychology from the University of CastillaLa
- 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 classes teacher at ASALUMA Association (Alcalá de Henares).

- Scholarship for Training as a Computer Technician in OTEC, University of Alcala (Alcalá de Henares)

09
Impact on Your Career

Carrying out this program involves a great economic, professional and, of course, personal investment, of which we are aware. The ultimate goal of carrying out this great effort should be to achieve professional growth in the students' field of interest.

"

This program will become your best academic investment"

Are you ready to take the leap?
Excellent professional development awaits you

The Postgraduate Certificate in Data Analysis Graphical Representation in Data Science from TECH Global University is an intensive program that prepares you to face business challenges and decisions in the field of data analysis. The main objective is to promote personal and professional growth. Helping students achieve success.

If you want to improve yourself, make a positive change professionally and network with the best, this is the place for you.

Analyzes different software for graphing and exploratory data analysis.

If you want to make a positive change in your profession, the Postgraduate Certificate in Data Analysis Graphical Representation in Data Science will help you achieve it.

When the change occurs

During the program	During the first year	After 2 years
12%	**67%**	**21%**

Type of change

Internal Promotion **46%**

Change of Company **41%**

Entrepreneurship **13%**
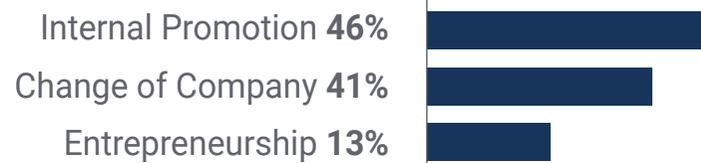
Salary increase

This program represents a salary increase of more than **25.33%** for our students.

Salary before	A salary increase of	Salary after
$22,900	**25.33%**	**$28,700**
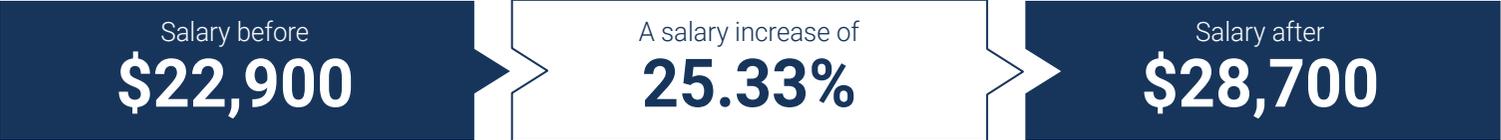
10
Benefits for Your Company

The Postgraduate Certificate in Data Analysis Graphical Representation in Data Science contributes to elevating the organization's talent to its maximum potential through the education of high-level leaders.

Participating in this program is a unique opportunity to access a powerful network of contacts in which to find future professional partners, customers or suppliers.

"
Transform your career. It's time to take the step towards excellence"

Developing and retaining talent in companies is the best long-term investment.

01

Intellectual Capital and Talent Growth

The professional will introduce the company to new concepts, strategies, and perspectives that can bring about significant changes in the organization.

02

Retaining high-potential executives to avoid talent drain

This program strengthens the link between the company and the professional and opens new avenues for professional growth within the company.

03

Building agents of change

The student will be able to make decisions in times of uncertainty and crisis, helping the organization overcome obstacles.

04

Increased international expansion possibilities

Thanks to this program, the company will come into contact with the main markets in the world economy.

05

Project Development

The professional can work on a current project or develop new projects in the field of R&D or Business Development within their company.

06

Increased competitiveness

This Postgraduate Certificate will equip your professionals with the skills to take on new challenges and therefore drive the organization forward.

11
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 qualification issued by TECH Global University.

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

This program will allow you to obtain your **Postgraduate Certificate in Data Analysis Graphical Representation in Data Science** 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: **Postgraduate Certificate in Data Analysis Graphical Representation in Data Science**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

tech global university

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

Postgraduate Certificate in Data Analysis Graphical Representation in Data Science

This is a program of 180 hours of duration equivalent to 6 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

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

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