

# Postgraduate Certificate

## Mobile Application Development with Artificial Intelligence





## Postgraduate Certificate Mobile Application Development with Artificial Intelligence

- » 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/mobile-application-development-artificial-intelligence](http://www.techtitute.com/pk/information-technology/postgraduate-certificate/mobile-application-development-artificial-intelligence)

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Certificate

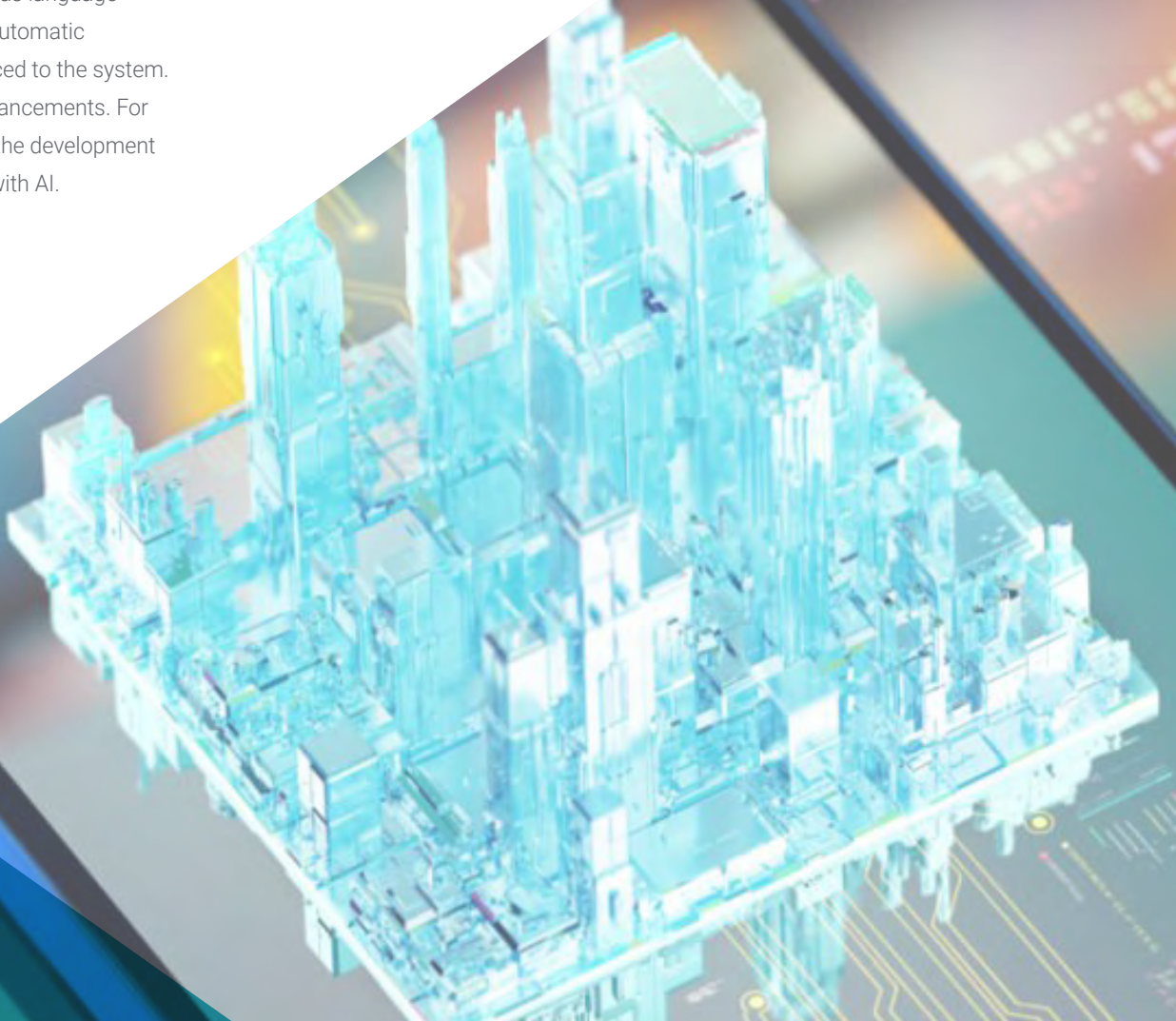
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# 01 Introduction

The creation of Settings Screens in IT, powered by Artificial Intelligence (AI), brings numerous benefits to professionals. For example, this system can improve the user experience by analyzing user behavior and automatically adjusting settings to provide more satisfying experiences. This can include configuring aspects such as language preferences, notifications or visual themes. In addition, the AI provides automatic configuration updates based on new features or enhancements introduced to the system. In this way, users benefit from the latest functionalities and security enhancements. For this reason, TECH is implementing an online training that will delve into the development of user interfaces for configuration and settings in mobile applications with AI.



“

*You will delve into Dashboard  
creation through 150 hours  
of the best digital teaching"*

More and more companies are realizing the benefits of developing mobile applications with machine learning. An example of this is that they personalize the user experience by adapting to their preferences, including the individualization of content, product recommendations and even responses to voice commands or gestures. Aware of this, institutions are constantly demanding the incorporation of professionals in this field. In order to take advantage of this opportunity and gain a competitive edge, specialists need to keep abreast of the advances that have been made in this area.

To facilitate this update, TECH is launching a Postgraduate Certificate that will delve deeper into the configuration of mobile development environments for AI projects. In this way, the curriculum will delve into the creation of a Workspace with GitHub Copilot, with the aim of enabling experts to write code in a more efficient way. Along the same lines, the agenda will focus on the use of Firebase services, including the database, authentication and notifications. In addition, the program will provide advanced strategies for managing real-time data and events in mobile applications.

As for the training methodology, TECH is based on the revolutionary Relearning teaching method, so that professionals learn with less effort and more performance. In this way they will have a natural and progressive learning, without the need to resort to traditional techniques such as memorization. In this sense, the university program offers a series of didactic resources in a 100% online format, which gives the student total freedom to coordinate their daily activities, whether personal or professional, with their study time, as they will not be subject to any fixed schedule.

This **Postgraduate Certificate in Mobile Application Development with Artificial Intelligence** contains the most complete and up-to-date program on the market.

The most important features include:

- ♦ The development of practical cases presented by experts in Artificial Intelligence in programming
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- ♦ Practical exercises where the self-assessment process can be carried out 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



*You will create Detail Screens to provide advanced features such as graphics display. And only in 150 hours with this program!"*

“

*Implement Security and  
Data Protection Techniques  
in the Authentication Screen”*

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 education programmed to learn 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 students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*You will apply the most effective strategies  
for Real-Time Data and Event Management  
in Firebase-enabled Mobile Applications.*

*Thanks to the revolutionary  
Relearning methodology, you will  
integrate all the knowledge in an  
optimal way to successfully achieve  
the results you are looking for.*





# 02 Objectives

Thanks to this training, computer scientists will acquire advanced skills to develop Mobile Applications through Machine Learning. In this way, graduates will develop elements such as interactive screens, icons or graphic resources using AI mechanisms. This will improve the user experience in mobile applications, which will contribute to their loyalty. On the other hand, professionals will configure the work environment and effectively use Github Copilot to streamline development processes. It also ensures a robust and modular structure in the programs thanks to the implementation of Clean Architecture.





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*TECH presents a unique program  
that will help you, in just 6 weeks,  
to make a leap in your profession"*





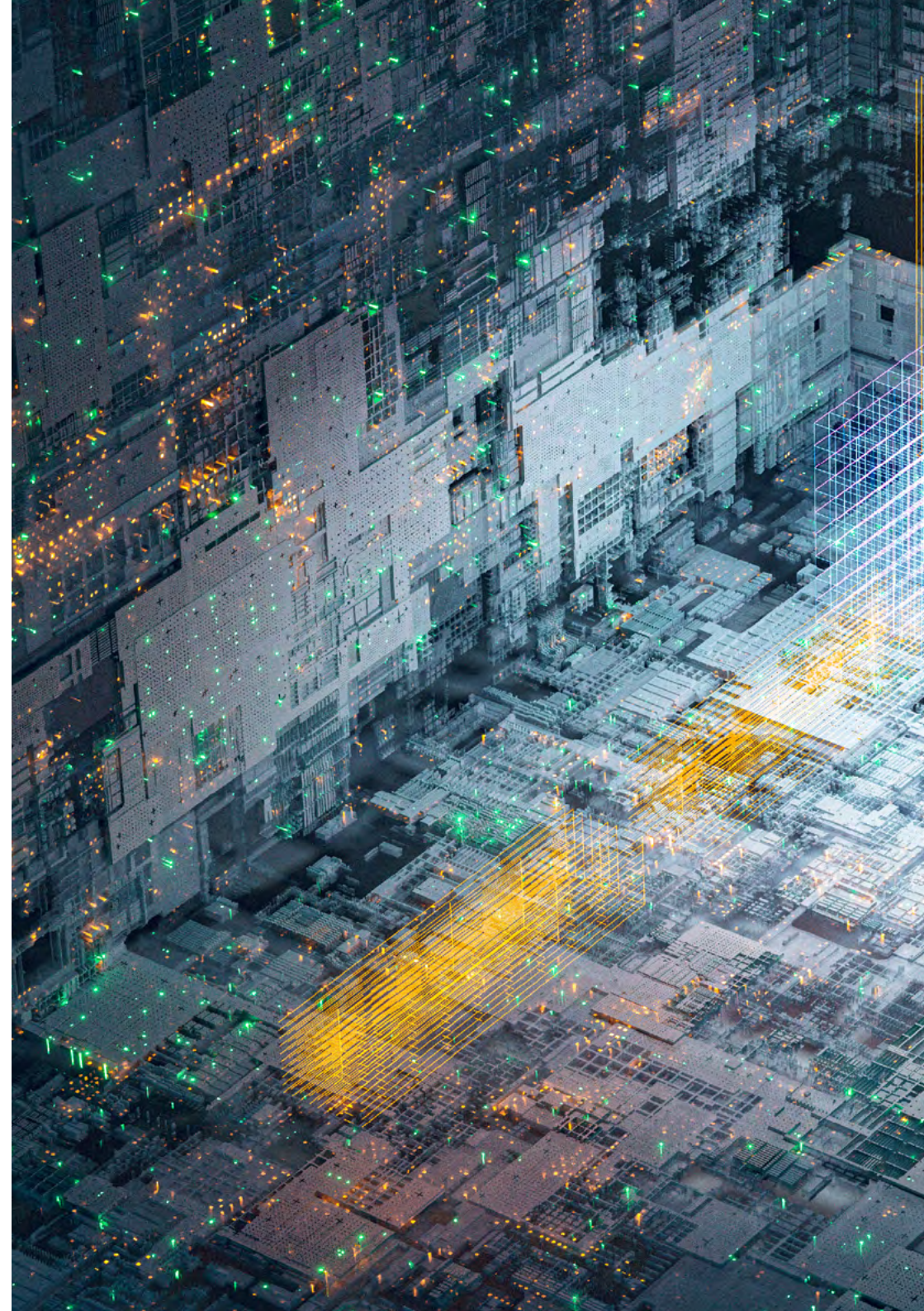
## General Objectives

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- ♦ Develop skills to set up and manage efficient development environments, ensuring a solid foundation for the implementation of AI projects
- ♦ Acquire skills in planning, executing and automating quality tests, incorporating AI tools for bug detection and remediation
- ♦ Understand and apply performance, scalability and maintainability principles in the design of large-scale computing systems
- ♦ Become familiar with the most important design patterns and apply them effectively in software architecture



*You will be able to access the Virtual Campus at any time and download the contents to consult them whenever you wish"*







## Specific Objectives

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- ♦ Apply advanced concepts of clean architecture, datasources and repositories to ensure a robust and modular structure in AI-enabled mobile applications
- ♦ Develop skills to design interactive screens, icons and graphical resources using AI to enhance the user experience in mobile applications
- ♦ Delve into mobile app framework configuration and employ Github Copilot to streamline the development process
- ♦ Optimize mobile applications with AI for efficient performance, taking into account resource management and data usage
- ♦ Perform quality testing of AI mobile applications, enabling students to identify problems and debug bugs



# 03

## Course Management

This program has a team of highly qualified and experienced teachers in the field of Mobile Application Development with AI. All professionals are experts committed to providing a high-level preparation, based on academic excellence and practical experience. The teachers will accompany the students in their delve process, providing them with personalized attention and guiding them in their work development. All this together with a series of didactic materials such as interactive summaries and specialized readings, will make the program a unique learning experience.



“

*You will have access to a curriculum  
designed by a reputable teaching staff,  
which will guarantee you successful learning”*

## Management



### Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometheus Global Solutions
- CTO at Korporate Technologies
- CTO at AI Shepherds GmbH
- Consultant and Strategic Business Advisor at Alliance Medical
- Director of Design and Development at DocPath
- PhD. in Psychology from the University of Castilla - La Mancha
- PhD in Economics, Business and Finance from the Camilo José Cela University
- PhD in Psychology from University of Castilla – La Mancha
- Máster in Executive MBA por la Universidad Isabel I
- Master's Degree in Sales and Marketing Management, Isabel I University
- Expert Master's Degree in Big Data by Hadoop Training
- Master's Degree in Advanced Information Technologies from the University of Castilla - la Mancha
- Member of: SMILE Research Group





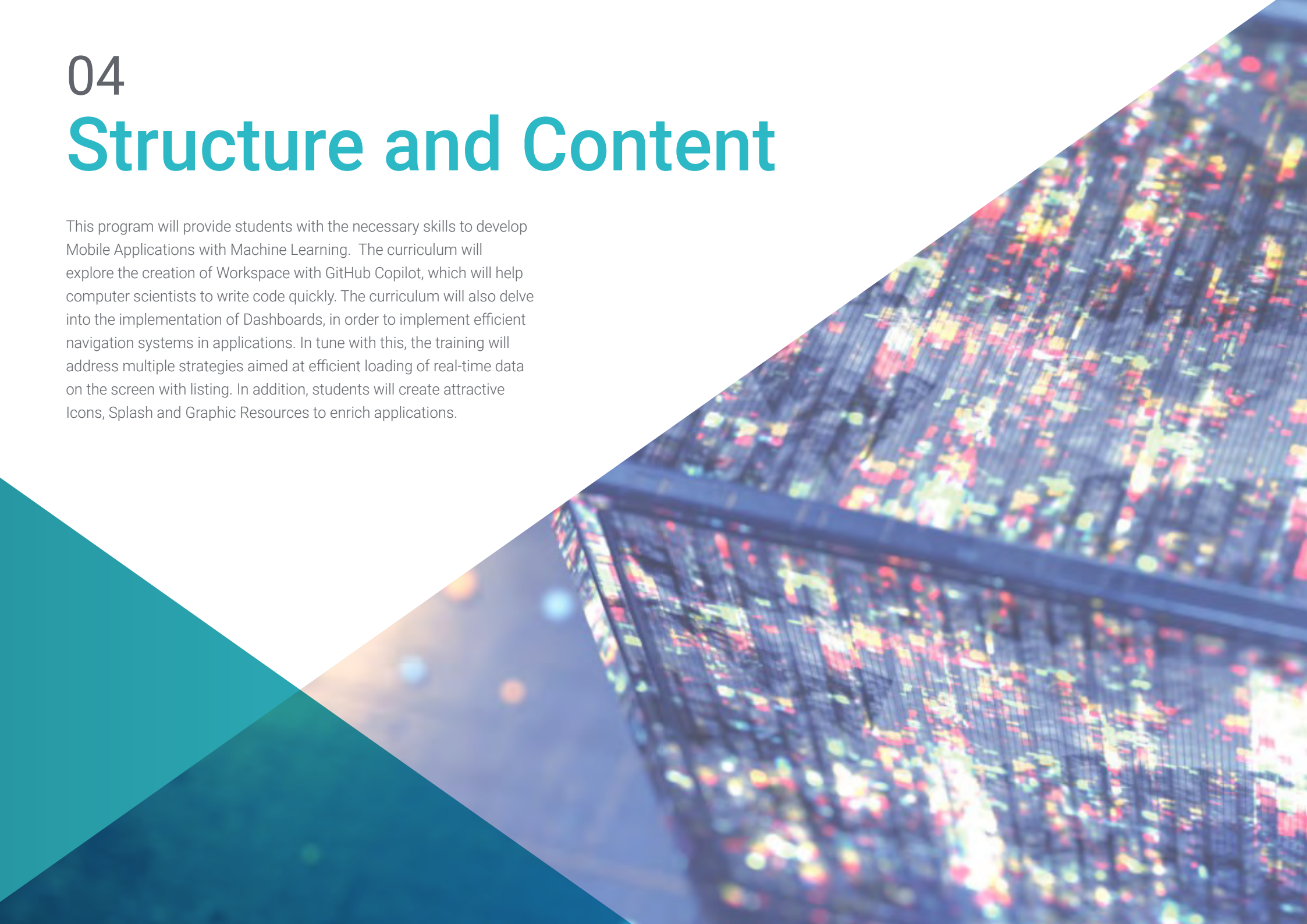
### **Mr. Castellanos Herreros, Ricardo**

- Specialist in Computer Systems Engineering
- Chief Technology Officer at OWQLO
- Freelance Technical Consultant
- Mobile Applications Developer for eDreams, Fnac, Air Europa, Bankia, Cetelem, Banco Santander, Santillana, Groupón and Grupo Planeta
- Web Developer for Openbank and Banco Santander
- Machine Learning Engineer course at Udacity
- Technical Engineer in Computer Systems from the University of Castilla la Mancha

# 04

## Structure and Content

This program will provide students with the necessary skills to develop Mobile Applications with Machine Learning. The curriculum will explore the creation of Workspace with GitHub Copilot, which will help computer scientists to write code quickly. The curriculum will also delve into the implementation of Dashboards, in order to implement efficient navigation systems in applications. In tune with this, the training will address multiple strategies aimed at efficient loading of real-time data on the screen with listing. In addition, students will create attractive Icons, Splash and Graphic Resources to enrich applications.



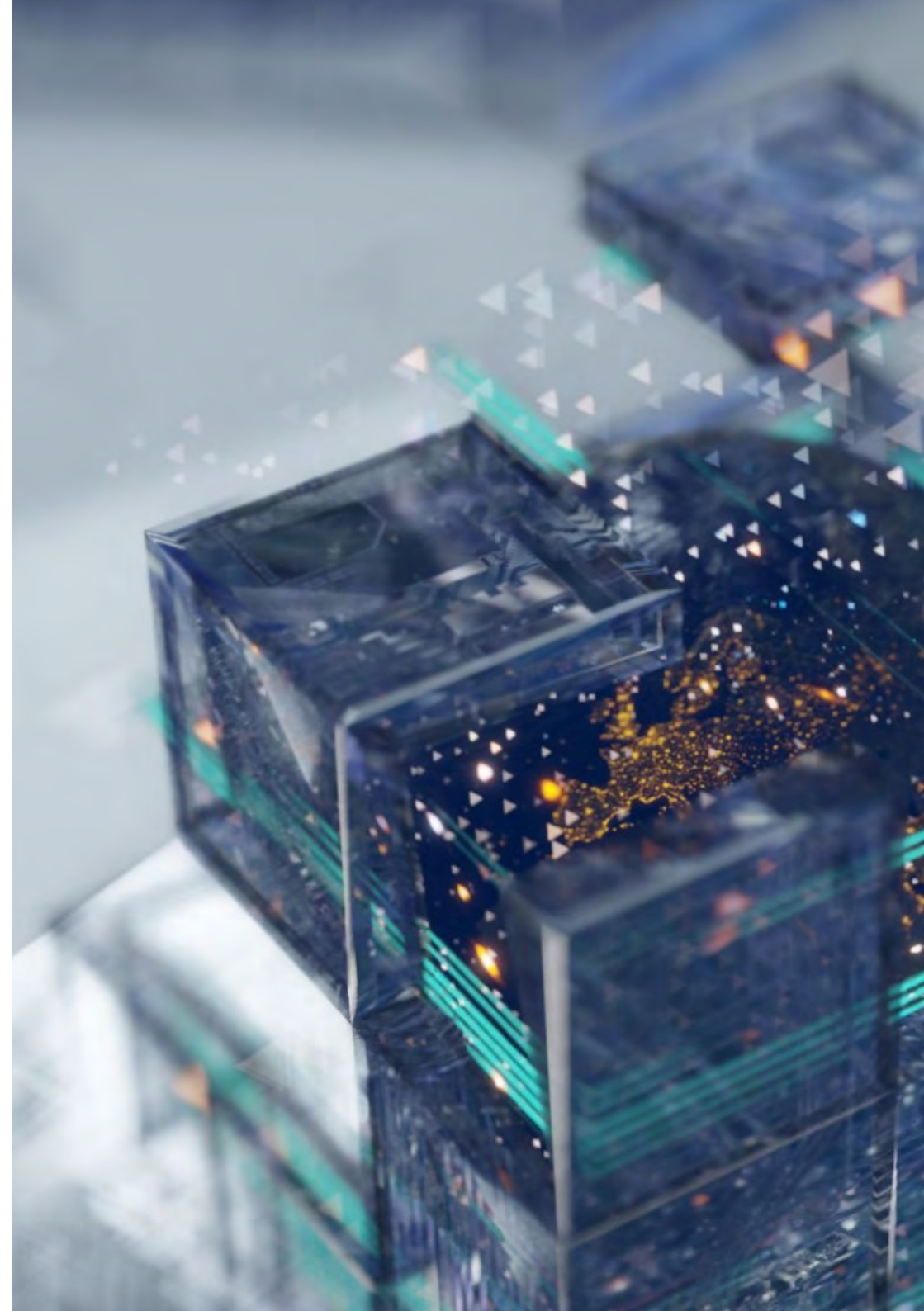
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*This program gives you the opportunity to update your knowledge in a real scenario, with the maximum scientific rigor of an institution at the forefront of technology"*



## Module 1. AI-enabled Mobile Applications

- 1.1. Preparation of Working Environment for Mobile Development with AI
  - 1.1.1. Configuration of Mobile Development Environments for Projects with Artificial Intelligence
  - 1.1.2. Selection and Preparation of Specific Tools for Mobile Application Development with AI
  - 1.1.3. Integration of AI Libraries and Frameworks in Mobile Development Environments
  - 1.1.4. Configuration of Emulators and Real Devices for Testing Mobile Applications with AI Components
- 1.2. Creating a Workspace with GitHub Copilot
  - 1.2.1. Integration of GitHub Copilot in Mobile Development Environments
  - 1.2.2. Effective Use of GitHub Copilot for Code Generation in AI Projects
  - 1.2.3. Strategies for Developer Collaboration when using GitHub Copilot in the Workspace
  - 1.2.4. Best Practices and Limitations in the Use of GitHub Copilot in Mobile Application Development with AI
- 1.3. Firebase Configuration
  - 1.3.1. Initial Configuration of a Firebase Project for Mobile Development
  - 1.3.2. Firebase Integration in Mobile Applications with Artificial Intelligence Functionalities
  - 1.3.3. Use of Firebase Services as a Database, Authentication and Notifications in AI Projects
  - 1.3.4. Strategies for Real-Time Data and Event Management in Firebase-enabled Mobile Applications
- 1.4. Concepts of Clean Architecture, DataSources, Repositories
  - 1.4.1. Fundamental Principles of Clean Architecture in Mobile Development with AI
  - 1.4.2. Implementation of DataSources and Repositories Layers in Clean Architectures
  - 1.4.3. Design and Structuring of Components in Mobile Projects with a Focus on Clean Architecture
  - 1.4.4. Benefits and Challenges of Implementing Clean Architecture in Mobile Applications with AI



- 1.5. Authentication Screen Creation
  - 1.5.1. Design and Development of User Interfaces for Authentication Screens in Mobile Applications with AI
  - 1.5.2. Integration of Authentication Services with Firebase in the Login Screen
  - 1.5.3. Use of Security and Data Protection Techniques in the Authentication Screen
  - 1.5.4. Personalization and Customization of the User Experience on the Authentication Screen
- 1.6. Dashboard and Navigation Creation
  - 1.6.1. Dashboard Design and Development with Artificial Intelligence Elements
  - 1.6.2. Implementation of Efficient Navigation Systems in Mobile Applications with AI
  - 1.6.3. Integration of AI Functionalities in the Dashboard to Improve User Experience
- 1.7. Creation of Listing Screen
  - 1.7.1. Development of User Interfaces for AI-enabled Mobile Application Listing Displays
  - 1.7.2. Integration of Recommendation and Filtering Algorithms in the Listing Screen
  - 1.7.3. Use of Design Patterns for Effective Data Presentation in the Listing Screen
  - 1.7.4. Strategies for Efficient Real-Time Data Loading in the Listing Screen
- 1.8. Creating Detail Screen
  - 1.8.1. Design and Development of Detailed User Interfaces for the Presentation of Specific Information
  - 1.8.2. Integration of AI Functionalities to Enrich the Detail Screen
  - 1.8.3. Implementation of Interactions and Animations in the Detail Screen
  - 1.8.4. Strategies for Performance Optimization in Loading and Detail Display in AI-enabled Mobile Applications
- 1.9. Creating Settings Screen
  - 1.9.1. Development of User Interfaces for Configuration and Settings in AI-enabled Mobile Applications
  - 1.9.2. Integration of Custom Settings Related to AI Components
  - 1.9.3. Implementing Customization Options and Preferences in the Configuration Screen
  - 1.9.4. Strategies for Usability and Clarity in the Presentation of Options in the Settings Screen
- 1.10. Creating Icons, Splash and Graphic Resources for Your App with AI
  - 1.10.1. Designing and Creating Attractive Icons to Represent Your AI Mobile Application
  - 1.10.2. Developing Splash Screens with Impressive Visual Elements
  - 1.10.3. Selection and Adaptation of Graphic Resources to Enhance the Aesthetics of the Mobile Application
  - 1.10.4. Strategies for Consistency and Visual Branding in AI Application Graphics Elements



*As it is an online Postgraduate Certificate, you will be able to combine your studies with the rest of your daily activities"*

# 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.



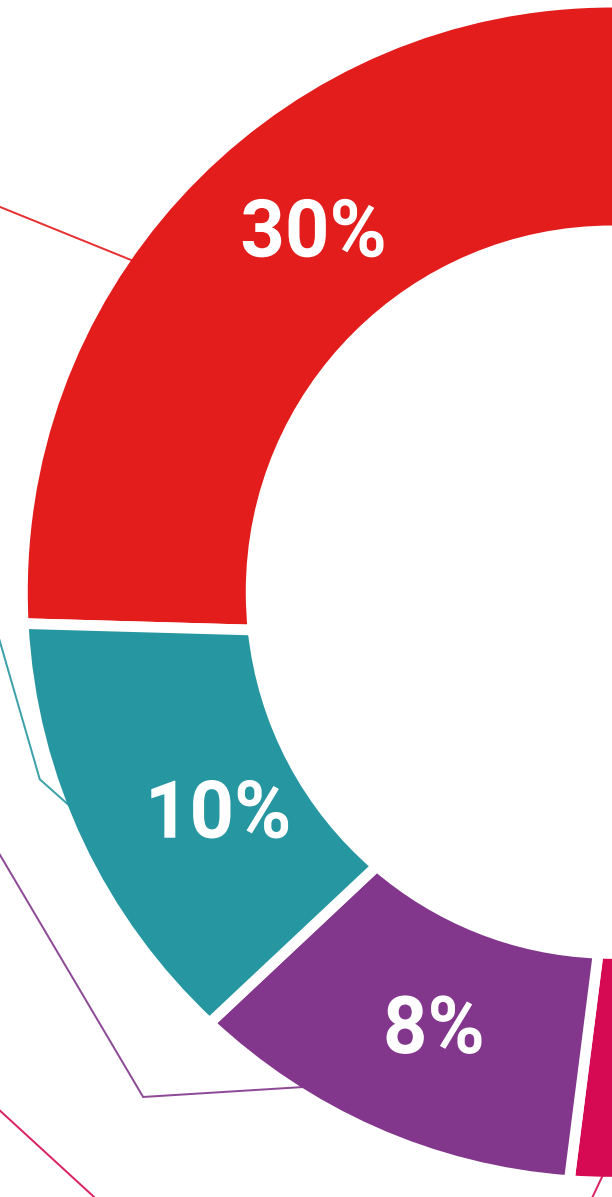
#### Practising Skills and Abilities

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.

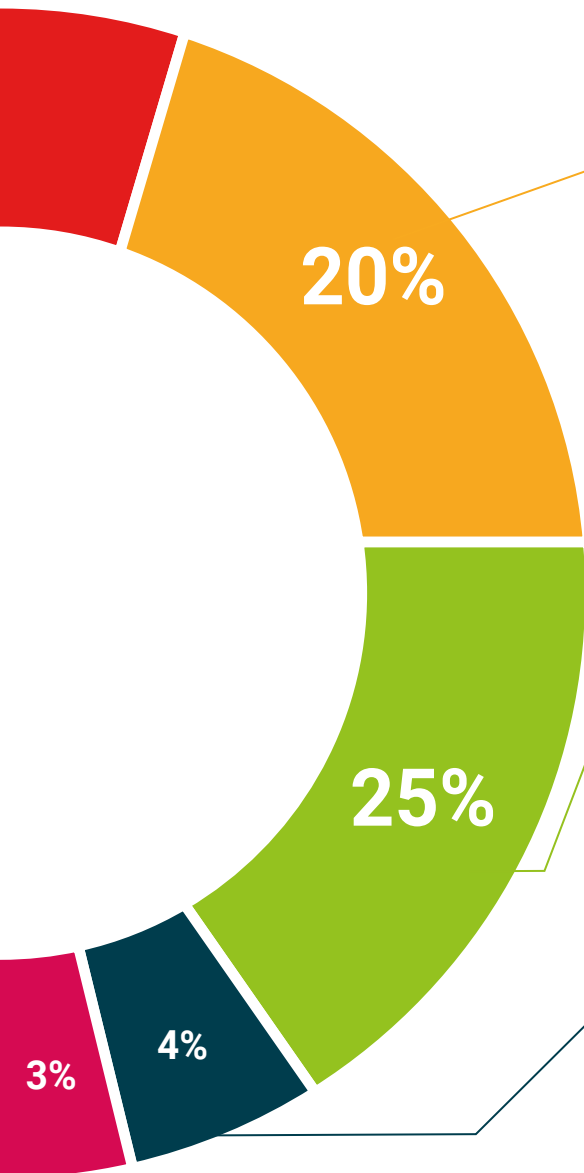


#### Additional Reading

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 Mobile Application Development with Artificial Intelligence guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.



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



This **Postgraduate Certificate in Mobile Application Development with Artificial Intelligence** 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** via 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 labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Mobile Application Development with Artificial Intelligence**

Official N° of Hours: **150 h.**





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