

# Postgraduate Certificate

Applications of Artificial Intelligence  
and IoT to Telemedicine



## Postgraduate Certificate Applications of Artificial Intelligence and IoT to Telemedicine

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online
- » Target Group: University Graduates who have previously completed any of the degrees in the fields of Social and Legal Sciences, Administrative and Business Sciences

Website: [www.techtitute.com/us/school-of-business/postgraduate-certificate/applications-artificial-intelligence-iot-telemedicine](http://www.techtitute.com/us/school-of-business/postgraduate-certificate/applications-artificial-intelligence-iot-telemedicine)

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# 01 Welcome

The development of Artificial Intelligence and the Internet of Things applicable to Telemedicine has made it possible to optimize complex processes and adapt traditional strategies and protocols to the most sophisticated and innovative bioinformatics techniques. Thanks to this, it is now possible to monitor patients remotely, as well as to consult their clinical history from different specialists. However, there is still a long way to go in this sector, so having a specialized program in this field can expand the job opportunities of any graduate. That is why TECH has decided to design this complete and multidisciplinary program, which will help you expand your knowledge and improve your management and leadership skills in a 100% online format.



Postgraduate Certificate in Applications of Artificial Intelligence and  
IoT to Telemedicine  
TECH Technological University



“

*The best program on the application of Artificial Intelligence and IoT in Telemedicine is this one, are you going to leave the opportunity to become a highly skilled leader in this sector?”*

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 center for intensive managerial skills education.



“

*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 Technological University



### Innovation

The university offers an online learning model that balances 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.

**+100000**

executives prepared 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 (postgraduate learning methodology with the best international valuation) with the Case Study. Tradition and vanguard in a difficult balance, and in the context of the most demanding educational 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 analyses in academia"*

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 education of the highest academic level”*

This program will provide you with a multitude of professional and personal advantages, among which we highlight the following:

**01**

### A Strong Boost to Your Career

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 students achieve positive career development in less than 2 years.*

**02**

### Develop a strategic and global vision of the company

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

*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**

### You will 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 fields 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

### You will be part of an exclusive community

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

*We give you the opportunity to study with a team of world-renowned teachers.*

# 04 Objectives

The objective of this program designed by TECH is to bring the graduate closer to the most innovative academic tools, as well as to provide the best content, thanks to which they can learn in detail the ins and outs of the Applications of Artificial Intelligence and IoT to Telemedicine in just 6 weeks and 100% online. To this end, they will have 150 hours of the best theoretical, practical and additional content, which will serve as a guide, even in the improvement of their professional skills.



“

*If your goal is to determine the applications of computation and its implication in bioinformatics, with this Postgraduate Certificate you will achieve it in less than 150 hours”*

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

The **Postgraduate Certificate in Applications of Artificial Intelligence and IoT to Telemedicine** will enable students to:

01

Provide the necessary resources to practically apply all the concepts in the modules

04

Delve into the most important techniques in research

02

Develop the fundamental concepts of databases



03

Determine the importance of medical databases

05

Identify the opportunities offered by the IoT in the field of e-Health



06

Propose communication protocols in different scenarios in the healthcare field

08

Substantiate the complexity of artificial intelligence models in its use in healthcare

09

Identify the optimization brought by parallelization in GPU-accelerated applications and its use in healthcare

07

Analyze communication in the IoT as well as its use in eHealth areas

10

Present all the Cloud technologies available to implement e-Health and the IoT products, both in computing and communication



05

# Structure and Content

TECH always shapes all of its programs taking into account the academic needs of its graduates and those of the professional sector to which they dedicate their work activity. That is why this Postgraduate Certificate includes the best syllabus related to Applications of Artificial Intelligence and IoT to Telemedicine. In addition, the program includes hours of additional material in different formats (detailed videos, images, research articles and additional readings) so that the graduate can contextualize the information and delve deeper into those aspects they consider most important for their professional growth.



“

*Would you like to know the role that telemedicine played in the control of Covid-19? With this Postgraduate Certificate you will work on the most important aspects related to management and communication”*

## Syllabus

The syllabus of this program in Applications of Artificial Intelligence and IoT to Telemedicine includes 150 hours of the best theoretical, practical and additional content related to the immediate current developments in the field of Engineering and Bioinformatics, designed by experts in the sector.

Therefore, the graduate who accesses this program will have 6 weeks of the most rigorous and comprehensive education, being able to implement to their knowledge the most complete information about the strategies, techniques and protocols that are currently having the best results in the business sector dedicated to this area.

It is, therefore, a unique opportunity to become the manager currently demanded by the entities, through an austere and dynamic specialization thanks to which they will master all aspects related to the management of e-Health platforms, the different applications of artificial intelligence or the uses of IoT in today's Telemedicine.

This Postgraduate Certificate in is developed over 6 weeks and is divided into 1 module:

### Module 1

Applications of Artificial Intelligence and the Internet of Things (IoT) in Telemedicine



### Where, When and How is it Taught?

TECH offers the possibility of developing this Postgraduate Certificate in Applications of Artificial Intelligence and IoT to Telemedicine completely online. During the 6 weeks of the specialization, the student will be able to access all the contents of this program at any time, which will allow the students to self-manage their study time.

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

**Module 1. Applications of Artificial Intelligence and the Internet of Things (IoT) in Telemedicine**

**1.1. E-Health Platforms. Personalizing Healthcare Services**

- 1.1.1. E-Health Platform
- 1.1.2. Resources for E-Health Platforms
- 1.1.3. Digital Europe Program. Digital Europe-4-Health and Horizon Europe

**1.2. Artificial Intelligence in Healthcare I: New Solutions in Computer Applications**

- 1.2.1. Remote Analysis of Results
- 1.2.2. Chatbox
- 1.2.3. Prevention and Real-Time Monitoring
- 1.2.4. Preventive and Personalized Medicine in Oncology

**1.3. Artificial Intelligence in Healthcare II: Monitoring and Ethical Challenges**

- 1.3.1. Monitoring Patients with Reduced Mobility
- 1.3.2. Cardiac Monitoring, Diabetes, Asthma Health and Wellness Apps
- 1.3.3. 1.3.3.1. Heart Rate Monitors  
1.3.3.2. Blood Pressure Bracelets
- 1.3.4. Ethical Use of AI in the Medical Field. Data Protection

**1.4. Artificial Intelligence Algorithms for Image Processing**

- 1.4.1. Artificial Intelligence Algorithms for Image Handling
- 1.4.2. Image Diagnosis and Monitoring in Telemedicine  
1.4.2.1. Melanoma Diagnosis
- 1.4.3. Limitations and Challenges in Image Processing in Telemedicine

**1.5. Application Acceleration using Graphics Processing Units (GPU) in Medicine**

- 1.5.1. Program Parallelization
- 1.5.2. GPU Operations
- 1.5.3. Application Acceleration using GPU in Medicine

**1.6. Natural Language Processing (NLP) in Telemedicine**

- 1.6.1. Text Processing in the Medical Field. Methodology
- 1.6.2. Natural Language Processing in Therapy and Medical Records
- 1.6.3. Limitations and Challenges in Natural Language Processing in Telemedicine

**1.7. The Internet of Things (IoT) in Telemedicine. Applications**

- 1.7.1. Monitoring Vital Signs. Wearables  
1.7.1.1. Blood Pressure, Temperature, and Heart Rate
- 1.7.2. The IoT and Cloud Technology  
1.7.2.1. Data Transmission to the Cloud
- 1.7.3. Self-Service Terminals

**1.8. The IoT in Patient Monitoring and Care**

- 1.8.1. The IoT Applications for Emergency Detection
- 1.8.2. The Internet of Things in Patient Rehabilitation
- 1.8.3. Artificial Intelligence Support in Victim Recognition and Rescue

**1.9. Nano-Robots. Typology**

- 1.9.1. Nanotechnology
- 1.9.2. Types of Nano-Robots  
1.9.2.1. Assemblers. Applications  
1.9.2.2. Self-Replicating. Applications

**1.10. Artificial Intelligence in COVID-19 Control**

- 1.10.1. Covid- 19 and Telemedicine
- 1.10.2. Management and Communication of Breakthroughs and Outbreaks
- 1.10.3. Outbreak Prediction in Artificial Intelligence



“

*You will have additional material of high quality and presented in different formats to delve deeper into aspects such as e-Health platforms, Cloud technology or NLP”*

# 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.*



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

### 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.

## 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.



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.





### 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.



07

# Our Students' Profiles

The Postgraduate Certificate in Applications of Artificial Intelligence and IoT to Telemedicine is aimed at graduates, postgraduates and university graduates who have previously completed any of the following programs in the fields of Social and Legal Sciences, Administration and Economics.

The diversity of participants with different educational profiles and from multiple nationalities makes up the multidisciplinary approach of this program.

The Postgraduate Certificate may also be taken by professionals who, being university graduates in any area, have two years of work experience in the field of Bioinformatics and Telemedicine.







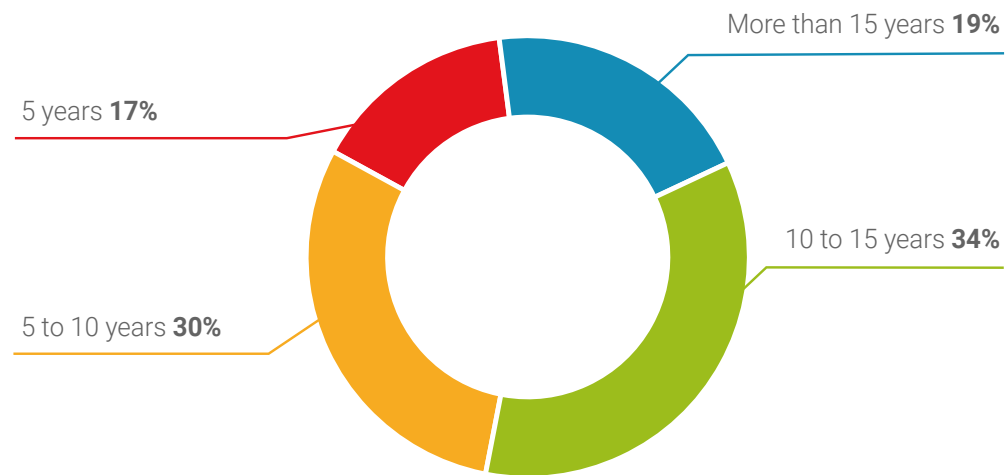
“

*Regardless of the Degree you have completed, this Postgraduate Certificate is designed for ambitious professionals who want to succeed in the Telemedicine business sector”*

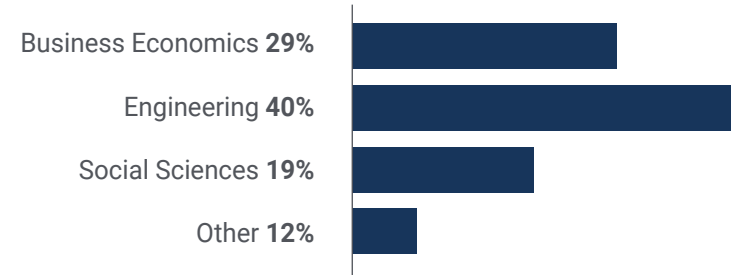
### Average Age

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

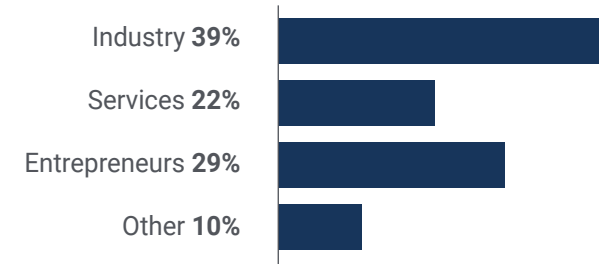
### Years of Experience



### Training

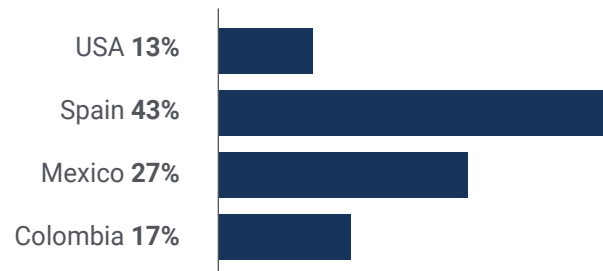


### Educational Profile



## Geographical Distribution

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## Abel Morales

Senior Systems Engineer in an international biomedical company.

*"In today's academic market there are hundreds of thousands of programs that promise to be the best, but given my experience, none resembles what TECH offers at least with this Postgraduate Certificate that I have taken. It is a program that has met my expectations and thanks to which I have been able to progress professionally. Without a doubt, I recommend it, because just like me, the rest of the students who access it will see how their knowledge is expanded from the first day"*

08

# Course Management

The teaching staff of this Postgraduate Certificate is composed of a team of Biomedical Engineering professionals with a wide and extensive experience working in the Telemedicine sector. The vast experience of this teaching staff will enrich the content of the program and will make it a unique opportunity for graduates to be taught by true experts in Artificial Intelligence and IoT and their application in the current environment.



A black and white photograph showing three people from a different perspective, looking down at a screen. The image is partially obscured by a dark blue diagonal shape that covers the top right and bottom right portions of the page.

“

*The teaching staff has selected for this Postgraduate Certificate a multitude of case studies so that you can perfect your professional skills in a dynamic and multidisciplinary way”*

## Management



### Ms. Sirera Pérez, Ángela

- ◆ Biomedical Engineer expert in Nuclear Medicine and exoskeleton design
- ◆ Designer of specific parts for 3D printing at Technadi
- ◆ Technician in the Nuclear Medicine area of the University Clinic of Navarra
- ◆ Degree in Biomedical Engineering from the University of Navarra
- ◆ MBA and Leadership in Healthcare and Medical Technology Companies

## Professors

### Ms. Muñoz Gutiérrez, Rebeca

- ◆ Data Scientist at INDITEX
- ◆ Firmware Engineer for Clue Technologies
- ◆ Graduate in Health Engineering, specializing in Biomedical Engineering, University of Malaga and University of Seville
- ◆ Master's Degree in Intelligent Avionics, Clue Technologies, in collaboration with the University of Málaga
- ◆ NVIDIA: Fundamentals of Accelerated Computing with CUDA C/C++
- ◆ NVIDIA: Accelerating CUDA C++ Applications with Multiple GPUs



09

# Impact on Your Career

The experience and prestige of TECH will serve as a distinctive asset to the graduate to stand out in any selection process with the inclusion of this Postgraduate Certificate in their professional resume. It is understood that all those students who have completed the demanding programs offered by this university have acquired the most up-to-date knowledge, and have been able to work on improving their skills in a conscientious manner.







“

*This is a Postgraduate Certificate designed by and for experts in the sector, who are looking for a qualitative leap in their professional careers”*

*You will perfect your leadership skills to such an extent that you will be able to define yourself as an authentic managerial expert in IoT projects in Telemedicine.*

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

The Postgraduate Certificate in Applications of Artificial Intelligence and IoT to Telemedicine of TECH is an intensive program that prepares you to face challenges and business decisions in the field of Engineering and Biomedicine. The main objective is to promote your personal and professional growth. Helping you achieve success.

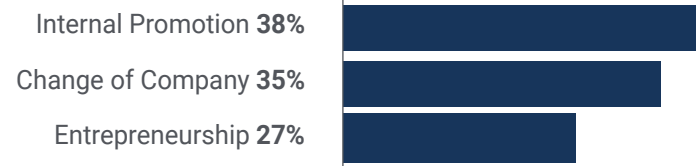
If you wish to improve yourself, make a positive change at a professional level and interact with the best, this is the place for you.

*A program that will provide you with the necessary requirements to be promoted and to apply for jobs according to your professional quality.*

### Time of Change



### Type of Change



## Salary Increase

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The completion of this program represents a salary increase of more than **28%** for our students.



10

# Benefits for Your Company

For any company, having a professional qualified through any program offered by TECH is synonymous with having for their company the most comprehensive and up-to-date knowledge of the sector, in this case Telemedicine and Engineering. TECH prepares its graduates to face complex situations and risk contexts, so that they finish their academic experience perfectly qualified to face the labor market.



“

*You will elevate the talent of the entity you are part of thanks to the exhaustive knowledge of the application of artificial intelligence to Telemedicine”*

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

01

### **Growth of talent and intellectual capital**

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**

You 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 real project or develop new projects in the field of R & D or business development of your company.

---

06

### **Increased competitiveness**

This program will equip students with the skills to take on new challenges and drive the organization forward.

# 11

# Certificate

The Postgraduate Certificate in Applications of Artificial Intelligence and IoT to Telemedicine 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 Applications of Artificial Intelligence and IoT to Telemedicine** 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 diploma 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 Applications of Artificial Intelligence and IoT to Telemedicine**

Official N° of Hours: **150 h.**



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



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# Postgraduate Certificate

## Applications of Artificial Intelligence and IoT to Telemedicine

