

# Postgraduate Certificate Emerging Trends and Innovations in Artificial Intelligence for Education



## Postgraduate Certificate Emerging Trends and Innovations in Artificial Intelligence for Education

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

Website: [www.techtute.com/pk/artificial-intelligence/postgraduate-certificate/emerging-trends-innovations-artificial-intelligence-education](http://www.techtute.com/pk/artificial-intelligence/postgraduate-certificate/emerging-trends-innovations-artificial-intelligence-education)

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# 01

# Introduction

The combination of Blockchain and Artificial Intelligence (AI) has led to a revolution in education. These technologies have multiple applications to benefit both teachers and students. For example, they are used to issue academic certificates in a secure, immutable and transparent manner. In this way, each piece of data is stored as a unique record on the blockchain to verify its authenticity. In this sense, also these tools help to personalize documents according to the individual needs of each person (including recommendations based on educational and employment path). Aware of its importance, TECH has developed this innovative 100% online program that will provide the teaching staff with the most advanced AI tools to optimize their resources.







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*A 100% online syllabus that will provide you with a unique, key and decisive experience to boost your professional development in the education sector with the rigorous management of Artificial Intelligence tools”*

Emerging Machine Learning tools are of great importance to the education sector due to their ability to enhance the learning experience. Among its main utilities is the analysis of a large dataset to identify patterns and trends. In this way, educational institutions make informed decisions about improving academic programs, identifying student retention problems and implementing effective teaching strategies. In tune with this, AI can enable new ways of teaching through Virtual Reality, relying on interactive simulations. These technologies enrich the educational process, making it more attractive as well as effective.

In this context, TECH launches a revolutionary Postgraduate Certificate that will delve into how AI serves to improve the retention of diverse knowledge. To this end, the syllabus will delve into the latest technological trends applied to the educational field, among which Augmented Reality or facial recognition stand out. In this way, the experts will guarantee the participation and well-being of their students. In addition, the syllabus will address different strategies for the development of pilots with emerging AI. In addition, teaching professionals will analyze successful cases of innovations in the application of computer systems and learn lessons from them. Moreover, the university program will explore upcoming trends and the future of education so that professionals can overcome any obstacles in their work.

It should be noted that, in order to consolidate these contents, TECH offers a 100% online educational environment, adapted to the needs of busy professionals seeking to advance their careers. It also employs the *Relearning* methodology, based on the repetition of key concepts to fix knowledge and facilitate learning. Therefore, the combination of flexibility and a robust pedagogical approach makes it highly accessible.

The **Postgraduate Certificate in Emerging Trends and Innovations in Artificial Intelligence for Education** contains the most complete and up-to-date program on the market. The most important features include:

- The development of case studies presented by experts in Artificial Intelligence in Education
- The graphic, schematic and practical contents of the book provide theoretical and practical information on those 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 master the most modern technologies to enrich your didactic resources, among which Virtual and Augmented Reality stand out"*

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*With the Artificial Intelligence tools that you will analyze in this program, you will be able to improve your students' knowledge retention immediately and efficiently”*

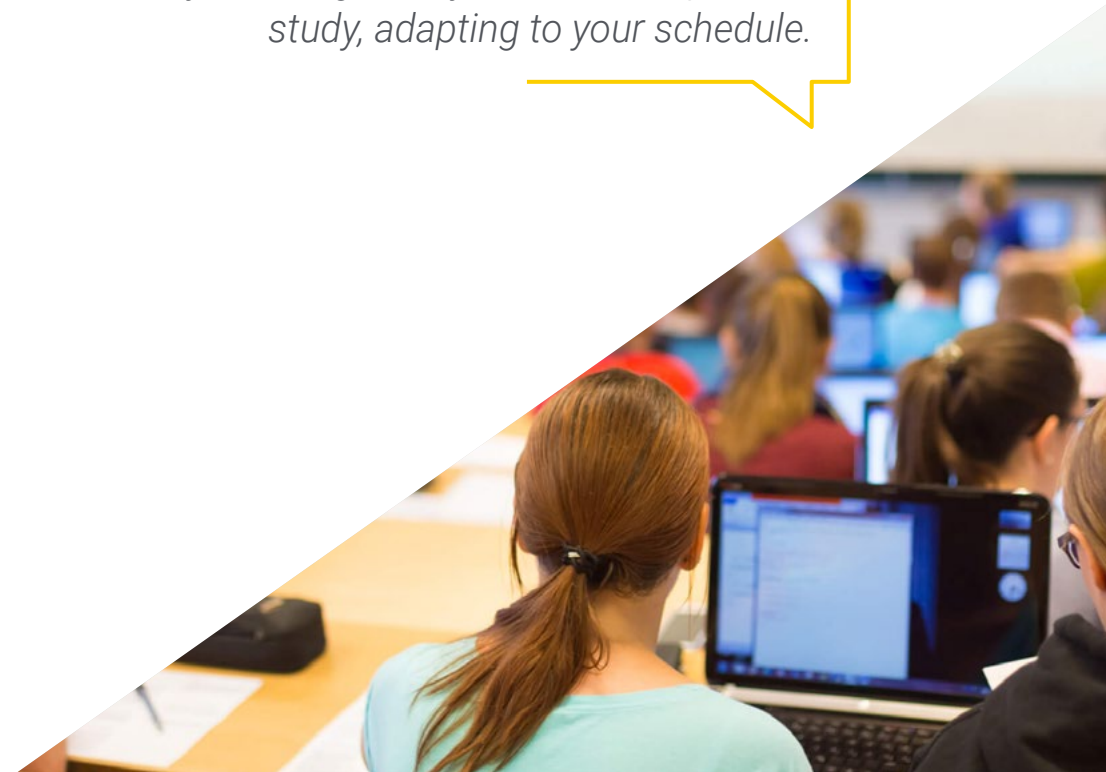
The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

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.

*Delve into the contents of this Postgraduate Certificate through innovative multimedia resources that will optimize your updating process.*

*Take advantage of the benefits of the Relearning methodology, which will allow you to organize your time and pace of study, adapting to your schedule.*





# 02

## Objectives

In just over 150 hours, this program will provide students with the innovations and emerging trends in Machine Learning applied to the education industry. In this way, graduates will master cutting-edge technologies such as augmented/virtual reality or predictive analytics to improve their teaching processes. Thanks to this, students will integrate the most cutting-edge strategies in the classroom in order to enrich the learning experience for students. Therefore, they will be highly qualified to make the leap to the most prestigious international educational centers.





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*Take advantage of this university program and delve into the latest advances in Facial and Emotional Recognition to improve the skills of your students"*



## General Objectives

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- ♦ Understand the theoretical foundations of Artificial Intelligence
- ♦ Study the different types of data and understand the data lifecycle
- ♦ Evaluate the crucial role of data in the development and implementation of AI solutions
- ♦ Delve into algorithms and complexity to solve specific problems
- ♦ Explore the theoretical basis of neural networks for Deep Learning development
- ♦ Analyze bio-inspired computing and its relevance in the development of intelligent systems
- ♦ Analyze current strategies of Artificial Intelligence in various fields, identifying opportunities and challenges
- ♦ Understand the fundamental ethical principles related to the application of AI in educational settings
- ♦ Analyze the current legislative framework and the challenges associated with the implementation of AI in educational settings
- ♦ Encourage the responsible design and use of AI solutions in educational contexts, considering cultural diversity and gender equity
- ♦ Provide an in-depth understanding of the theoretical foundations of AI, including machine learning, neural networks, and natural language processing
- ♦ Understand the applications and impact of AI in teaching and learning, critically assessing its current and potential uses





## Specific Objectives

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- Master emerging AI tools and technologies applied to education for their effective use in learning environments
- Integrate Augmented and Virtual Reality in Education to enrich and enhance the learning experience
- Apply conversational AI to facilitate educational support and foster interactive learning among students
- Implement facial and emotional recognition technologies to monitor student engagement and well-being in the classroom
- Explore the integration of Blockchain and AI in Education to transform educational administration and validate certifications



*Enter a constantly evolving field, where Artificial Intelligence innovation merges with learning in education”*

# 03

## Course Management

For the delivery of this academic itinerary, TECH has selected the best specialists in Artificial Intelligence in Education. This teaching staff is composed of professionals with extensive experience, forged in institutions of national prestige. Each member of the team brings deep and up-to-date clinical experience, ensuring that students receive the highest quality preparation backed by the latest advances in machine learning. The meticulous choice of this faculty ensures an eminently practical and specialized perspective that will enrich the learning experience for teaching professionals.







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*You will be supported by a faculty cadre  
of distinguished professionals in Artificial  
Intelligence in Education”*

## Management



### Dr. Arturo Peralta Martín-Palomino

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



### Mr. Nájera Puente, Juan Felipe

- ♦ Data Analyst and Data Scientist
- ♦ Director of Studies and Research at the Council for Quality Assurance in Higher Education
- ♦ Production Programmer at Confiteca C.A
- ♦ Processes Consultant at Esefex Consulting
- ♦ Academic Planning Analyst at San Francisco de Quito University
- ♦ Professional Master's Degree in Big Data and Data Science at the International University of Valencia
- ♦ Industrial Engineer from San Francisco de Quito University

## Professors

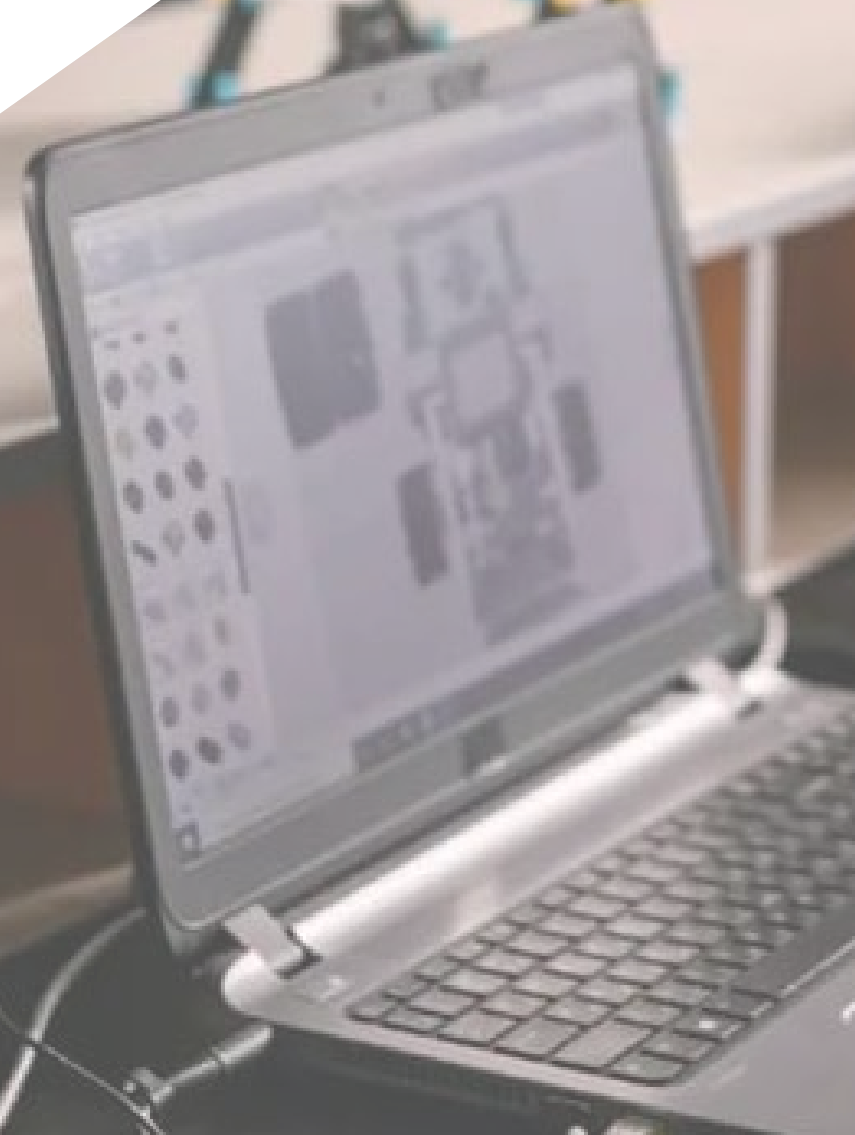
### Ms. Martínez Cerrato, Yésica

- ♦ Education, Business and Marketing Specialist
- ♦ Responsible for Technical Training at Securitas Seguridad España
- ♦ Product Manager in Electronic Security at Securitas Direct
- ♦ Business Intelligence Analyst at Ricopia Technologies
- ♦ Computer Technician and Head of OTEC Computer Classrooms at the University of Alcalá de Henares
- ♦ Collaborator in the ASALUMA Association
- ♦ Degree in Electronic Communications Engineering at the Polytechnic School, University of Alcalá de Henares

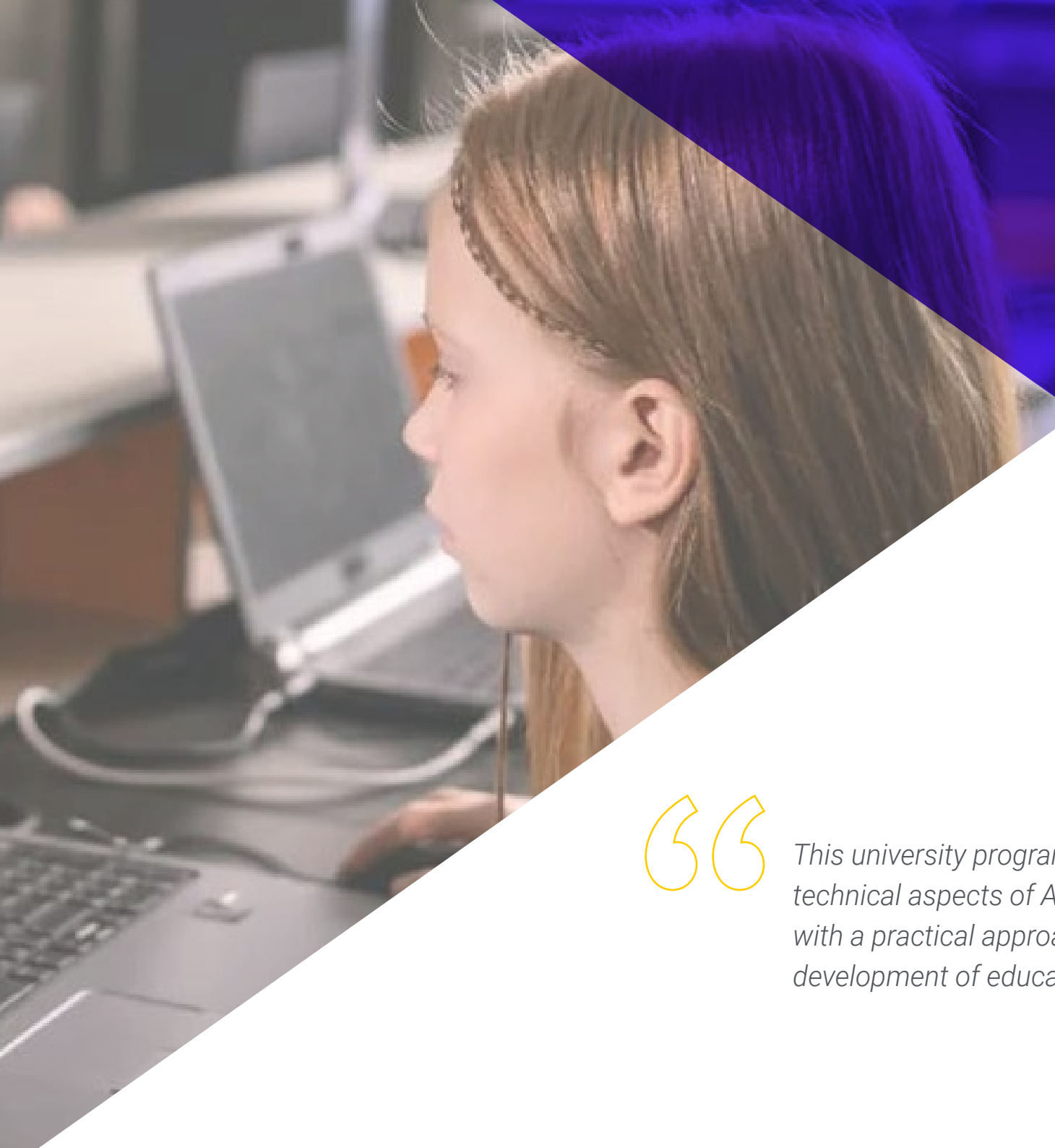
# 04

## Structure and Content

This Postgraduate Certificate will delve into the innovations and emerging trends in Artificial Intelligence (AI) applied to the field of Education. In this way, the syllabus will delve into cutting-edge technologies among which augmented/virtual reality and conversational Machine Learning stand out. Likewise, the syllabus will highlight the application of AI to improve students' knowledge retention. Thanks to this, students will successfully integrate technologies within the classroom to optimize the teaching experience. Materials will also focus on the analysis of the latest educational trends to promote innovation.





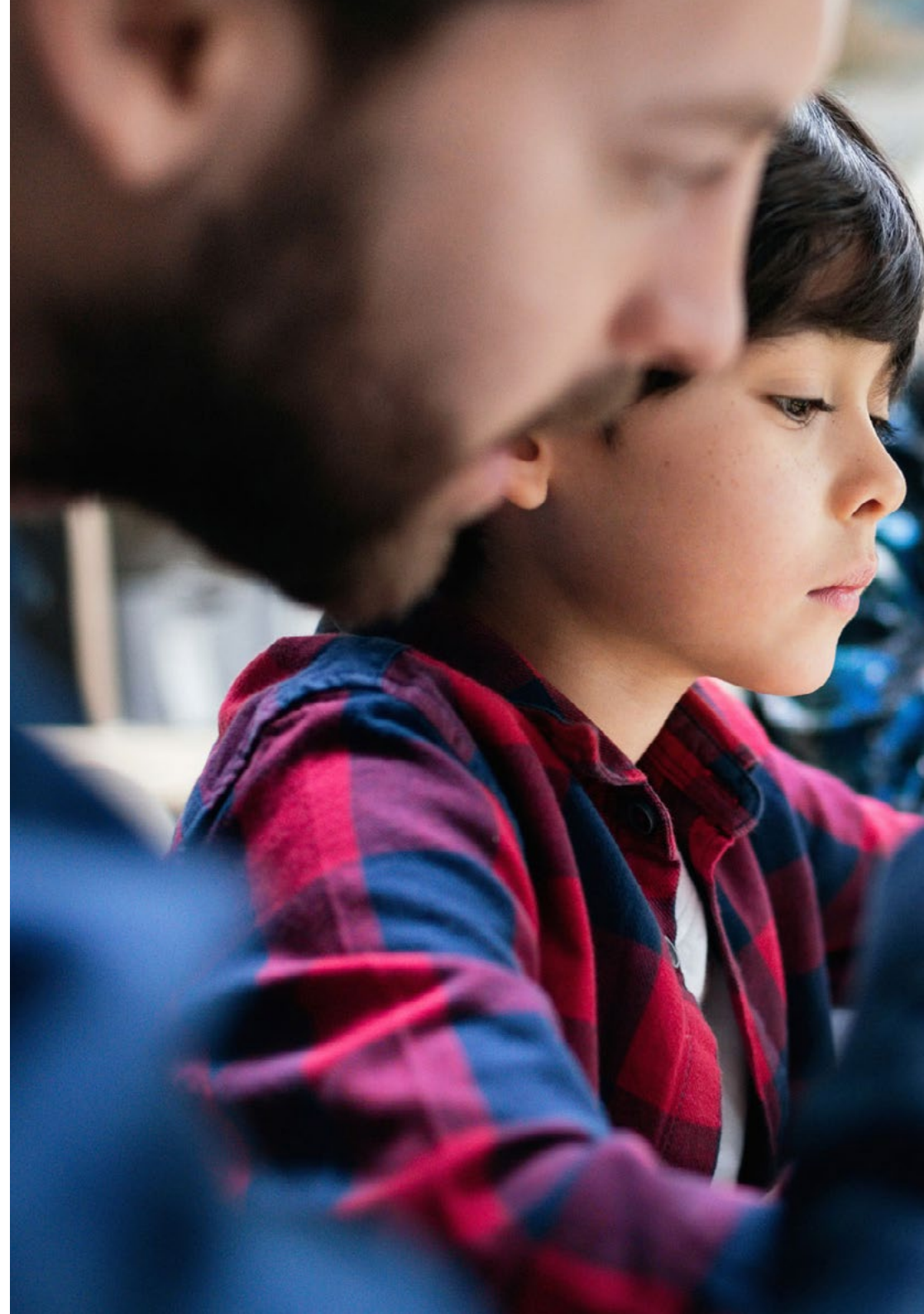


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*This university program combines technical aspects of Artificial Intelligence with a practical approach in the development of educational projects"*

## Module 1. Emerging Trends and Innovations in Artificial Intelligence for Education

- 1.1. Emerging AI Tools and Technologies in Education
  - 1.1.1. Obsolete AI Tools
  - 1.1.2. Current Tools
  - 1.1.3. Future Tools
- 1.2. Augmented and Virtual Reality in Education
  - 1.2.1. Augmented Reality Tools
  - 1.2.2. Virtual Reality Tools
  - 1.2.3. Application of Tools and their Uses
  - 1.2.4. Advantages and Disadvantages
- 1.3. Conversational AI for Educational Support and Interactive Learning
  - 1.3.1. Conversational AI, Why Now?
  - 1.3.2. AI in Learning
  - 1.3.3. Advantages and Disadvantages
  - 1.3.4. Applications of AI in Learning
- 1.4. Application of AI for Improving Knowledge Retention
  - 1.4.1. AI as a Support Tool
  - 1.4.2. Guidelines to Follow
  - 1.4.3. AI Performance in Knowledge Retention
  - 1.4.4. AI and Support Tools
- 1.5. Facial and Emotional Recognition Technologies for Tracking Learner Engagement and Well-Being
  - 1.5.1. Facial and Emotional Recognition Technologies on the Market Today
  - 1.5.2. Uses
  - 1.5.3. Applications
  - 1.5.4. Margin of Error
  - 1.5.5. Advantages and Disadvantages
- 1.6. Blockchain and AI in Education to Transform Educational Administration and Certification
  - 1.6.1. What is the Blockchain
  - 1.6.2. Blockchain and its Applications
  - 1.6.3. Blockchain as a Transformative Element
  - 1.6.4. Educational Administration and Blockchain





- 1.7. Emerging AI Tools to Enhance the Learning Experience
  - 1.7.1. Current Projects
  - 1.7.2. Commissioning
  - 1.7.3. What the Future Holds
  - 1.7.4. Transforming the Aulas 360
- 1.8. Strategies for Developing Pilots with Emerging AI
  - 1.8.1. Advantages and Disadvantages
  - 1.8.2. Strategies to be Developed
  - 1.8.3. Key Points
  - 1.8.4. Pilot Projects
- 1.9. Analysis of Successful AI Innovation Cases
  - 1.9.1. Innovative Projects
  - 1.9.2. Application of AI and its Benefits
  - 1.9.3. AI in the Classroom, Successful Cases
- 1.10. Future of AI in Education
  - 1.10.1. AI History in Education
  - 1.10.2. Where is AI going in the Classroom?
  - 1.10.3. Future Projects

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



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 Emerging Trends and Innovations in Artificial Intelligence for Education guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





The image features two black graduation caps (mortarboards) against a bright blue sky with light, wispy clouds. One cap is in the foreground on the left, and another is slightly behind it to the right. The caps are tilted upwards. The background is split diagonally from the bottom right corner into a white area where the text is located and a blue area above it.

“

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

The **Postgraduate Certificate in Emerging Trends and Innovations in Artificial Intelligence for Education** contains the most complete and up-to-date academic 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 Emerging Trends and Innovations in Artificial Intelligence for Education**

Official N° of Hours: **150 h.**



\*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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