

# 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.techtitute.com/us/education/postgraduate-certificate/emerging-trends-innovations-artificial-intelligence-education](http://www.techtitute.com/us/education/postgraduate-certificate/emerging-trends-innovations-artificial-intelligence-education)

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# 01

# Introduction

The use of Facial and Emotional Recognition technologies in education has generated interest in recent years. These systems allow teachers to track student engagement and well-being. In this way, experts can adjust their teaching methods and offer additional support to those who are experiencing negative emotions such as stress or anxiety. Also, the information gathered through these techniques is useful for customizing content and learning strategies to meet individual student needs. Therefore, TECH creates a program that will delve into the use of face authentication. It is taught in a 100% online modality to provide convenience to the students.





*Study from the comfort of your home and update your knowledge online with TECH Technological University, the biggest online university in the world”*

More and more educational institutions are demanding the incorporation of experts in Innovations and Emerging Trends in Artificial Intelligence (AI). This is because Machine Learning fosters the personalization of learning, which means that both teaching materials and activities can be tailored to the individual needs of learners. In turn, this significantly improves learning efficiency and knowledge retention. To take advantage of these opportunities, experts need to stay at the forefront of the latest developments in the field.

For this reason, TECH is developing a Postgraduate Certificate that will provide educators with the Emerging Innovations and Trends in AI for Education. The academic itinerary will delve into the management of the most innovative tools, among which Augmented Reality stands out. Likewise, the syllabus will address *Blockchain*, so that graduates can offer educational content in a secure and decentralized manner. In addition, the academic materials will provide strategies for the development of AI pilots, exposing their main advantages and disadvantages. Also, the university program will include several successful case studies on AI Innovations.

As for the methodology of the program, we use the *Relearning* teaching system, of which TECH is a pioneer. This consists of the reiteration of the key contents of the syllabus, in order to promote natural learning and progress. In addition, since it is 100% online, students will have greater flexibility and will be able to expand their knowledge from anywhere. All that is required is that they have an electronic device capable of accessing the Internet, using their own cell phone. They will also have permanent access to multimedia resources that will help them understand the topics more clearly. In addition, they will analyze case studies that simulate real situations, improving their ability to solve problems and increasing their competencies in real environments.

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 self-assessment can be used to improve learning
- ♦ Its special emphasis on innovative methodologies
- ♦ Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



*Handle the most innovative technologies to enrich your didactic resources, among which Virtual Reality stands out"*

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*You will develop the most effective strategies for the development of pilots with Emerging Artificial Intelligence”*

The program's teaching staff includes professionals from the sector who contribute their work experience to this 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 delve into the Blockchain to overcome challenges and improve key aspects of the education system.*

*You will reinforce your key knowledge through the innovative Relearning methodology for an effective assimilation of the subject.*



# 02

# Objectives

This program will provide students with the Emerging Innovations and Trends in Machine Learning, related to the educational system. Graduates will master cutting-edge technologies such as Augmented Reality or Predictive Analytics to improve their teaching processes. Thanks to this, educators will implement mechanisms that will enrich the learning experience of students. In addition, they will be highly qualified to successfully overcome the challenges they will face during their work practice.







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*At the end of the 6 weeks of this program, you will have obtained the necessary technological tools to boost your teaching career"*



## 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



*Expand your knowledge through innovative multimedia didactic formats that will optimize your updating process"*

03

# Course Management

To maintain its commitment to quality content, TECH brings together an excellent teaching team with expertise in Emerging Trends and Innovations in Artificial Intelligence for Education. Their extensive background in this field gives students the guarantee of accessing a program that brings together the most current information and under the highest scientific rigor. In this way, you will obtain an updating process through the best professionals in this area.



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

## Management



### Dr. Peralta Martín-Palomino, Arturo

- ♦ 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 the University of Castilla-La Mancha and Executive MBA from the University Isabel I
- ♦ 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 Seguridad España
- ♦ 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, Madrid

# 04

# Structure and Content

This Postgraduate Certificate will explore the Emerging Innovations and Trends in Machine Learning applied to the educational environment. The syllabus will delve into the most cutting-edge technologies to optimize teaching practice, such as Virtual Reality. At the same time, the syllabus will highlight the application of AI to improve students' knowledge retention. In this way, graduates will adequately integrate intelligent systems into classrooms to offer high quality teaching experiences. The program will encourage specialists to develop innovative processes to excel in the education industry.



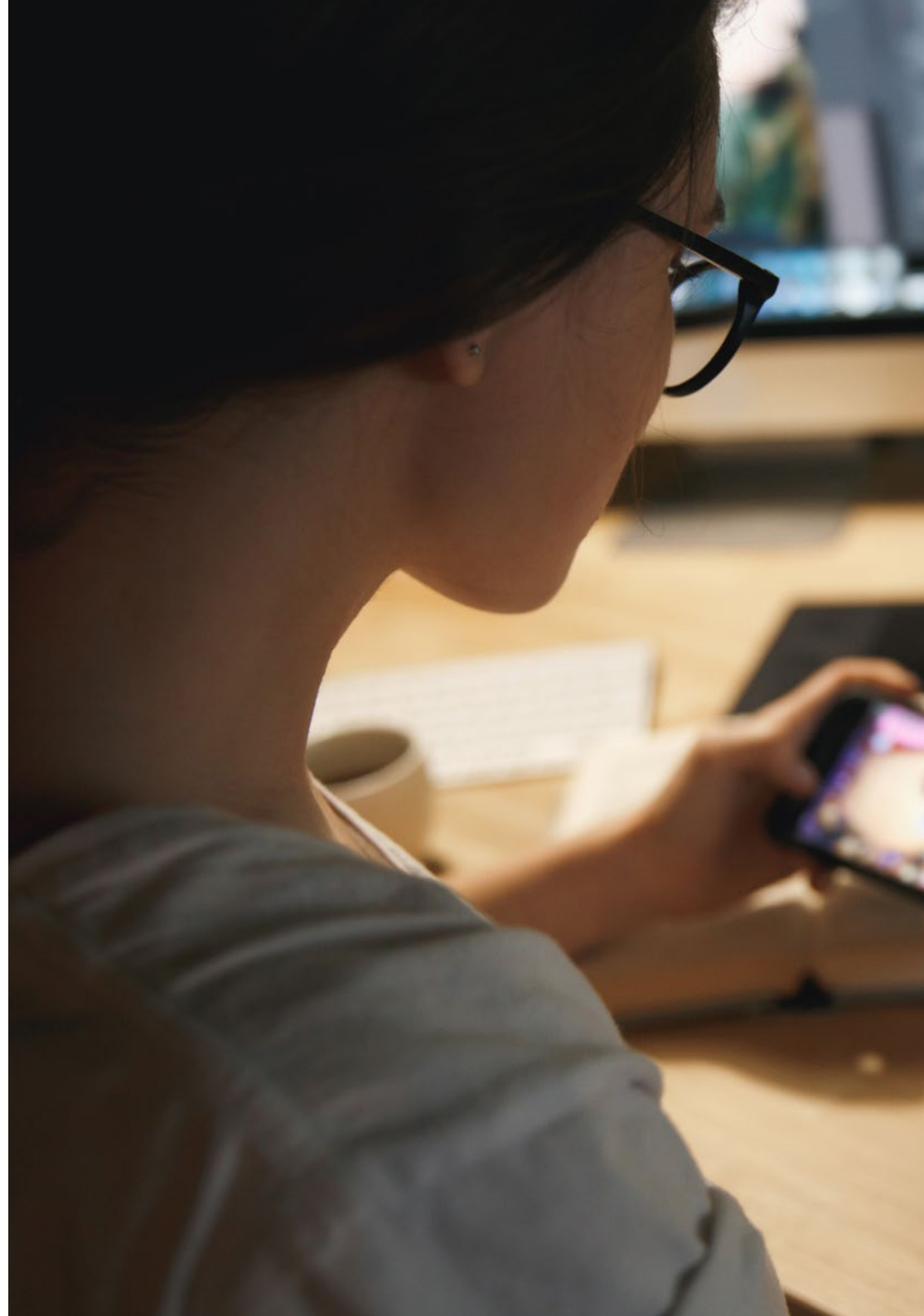


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*This university program combines technical aspects of Artificial Intelligence with a practical focus on the development of educational projects"*

## Module 1. Innovations and Emerging Trends in AI 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



*Acquire knowledge without geographical limitations or pre-established timing"*

05

# Methodology

This training program offers 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.





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*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"*

## At TECH Education School we use the Case Method

In a given situation, what should a professional do? Throughout the program students will be presented with multiple simulated cases based on real situations, where they will have to investigate, establish hypotheses and, finally, resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method.

*With TECH, educators can experience a learning methodology that is shaking the foundations of traditional universities around the world.*



*It is a technique that develops critical skills and prepares educators to make decisions, defend their arguments, and contrast opinions.*

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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

The effectiveness of the method is justified by four fundamental achievements:

1. Educators who follow this method not only grasp concepts, but also develop their mental capacity, by evaluating real situations and applying their knowledge.
2. The learning process is solidly focused on practical skills that allow educators to better integrate the knowledge into daily practice.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life teaching.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

Our University is the first in the world to combine case studies with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, which represent a real revolution with respect to simply studying and analyzing cases.



*Educators will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*



At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology we have trained more than 85,000 educators with unprecedented success in all specialties. 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.*

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.

The overall score obtained by our learning system is 8.01, according to the highest international standards.



This program offers the best educational material, prepared with professionals in mind:



### Study Material

All teaching material is produced by the specialist educators who teach the course, specifically for the course, so that the teaching content is really 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.



### Educational Techniques and Procedures on Video

TECH introduces students to the latest techniques, with the latest educational advances, and to the forefront of Education. All this, first-hand, with the maximum rigor, explained and detailed for your assimilation and understanding. And best of all, you can watch them as many times as you want.



### 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 multimedia content presentation training Exclusive system was awarded by Microsoft as a "European Success Story".



### 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.





### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



### 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 your goals.



### 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.



### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



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.



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*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 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 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 diploma issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.



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