Postgraduate Diploma

Artificial Intelligence Technologies in Education

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Postgraduate Diploma
Artificial Intelligence Technologies in Education

- Modality: **online**
- Duration: **6 months**
- Certificate: **TECH Technological University**
- Schedule: **at your own pace**
- Exams: **online**

Website: **www.techtitute.com/artificial-intelligence/postgraduate-diploma/postgraduate-diploma-artificial-intelligence-technologies-education**

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01

Introduction

In the educational framework, Artificial Intelligence (AI) is beneficial for improving the educational experience and providing more effective support. This tool has many applications, including personalized tutoring, immediate assistance or feedback. In this way, students can resolve any doubts that arise during their study with immediacy, even if they are out of school hours. In this way, students will progressively improve their skills and understanding. However, to enjoy these services, specialists need to integrate Intelligent Automation effectively into the educational field. To help them with this task, TECH has launched an advanced 100% online program, which will go deeper into the planning of AI projects in the academic field.

TECH provides you with a 100% online methodology, based on free access to content and personalization of learning"

Augmented Reality and Virtual Reality have great potential to improve the quality of education by making learning more interactive, immersive and personalized. These technologies can increase students' motivation, while preparing them to face the challenges of the working landscape.

For example, future surgeons can practice procedures in a safe virtual environment before doing so on real patients. Along these lines, such technologies allow students to visualize abstract and difficult-to-understand concepts in a clearer way. An example would be 3D graphics of mathematical equations.

In this context, TECH has developed a groundbreaking study that will focus on innovations and emerging trends in AI for Education. Designed by a well-versed faculty, the syllabus will analyze various methods to foster interactive learning, promoting knowledge retention. Likewise, the syllabus will provide advanced tools to develop projects such as educational games.

On the other hand, the didactic materials will provide the keys to evaluate the impact of the academic plans through various measurement mechanisms. In addition, teachers will acquire an ethical awareness of the treatment of sensitive data in educational centers. They will also become aware of the impact of AI on cultural diversity and gender equity. It should be noted that the program includes real case studies, which will bring the professional closer to the reality of teaching assistance.

To reinforce these contents, the methodology of this program reinforces its innovative character. TECH offers a 100% online educational environment, tailored to the needs of professionals seeking to advance their careers. It also relies on the Relearning methodology, based on the repetition of key concepts to fix knowledge and facilitate learning. In this way, the combination of flexibility and a robust pedagogical approach makes it highly accessible.

This **Postgraduate Diploma in Artificial Intelligence Technologies in Education** contains the most complete and up-to-date program on the market. Its most important features include:

- The development of case studies presented by experts in Artificial Intelligence Technologies 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

You will be prepared to overcome any ethical challenges during the processing of sensitive data in the educational environment"

Looking to quickly resolve your students' questions? Develop the most effective chatbots for student assistance thanks to this program"

You will perform the most ethical treatments to ensure the privacy of sensitive data in the educational context.

The Relearning system applied by TECH in its programs reduces the long hours of study so frequent in other teaching methods.

The program's teaching staff includes professionals from the sector who contribute their work experience to this specializing 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 course. For this purpose, students will be assisted by an innovative interactive video system created by renowned and experienced experts.

02

Objectives

With this program, graduates will specialize in the design and implementation of AI projects in educational contexts. Teachers will master the most modern tools to transform educational platforms and offer solutions to learning problems. In addition, they will perform a continuous analysis of academic plans and identify areas for optimization. They will also implement facial recognition technologies to monitor student well-being. Likewise, professionals will be aware of the social and cultural impact of AI in education. At the same time, they will gain in-depth knowledge of current legislation to ensure that their practices are safe.

You will have access to the most complete and updated syllabus in the academic market, guaranteeing you a leap towards the highest teaching quality"

General Objectives

- Understand the fundamental ethical principles related to the application of Artificial Intelligence (AI) in educational settings
- Analyze the current legislative framework and the challenges associated with the implementation of AI in educational settings
- Develop critical skills to evaluate the ethical and social impact of AI in education
- Encourage the responsible design and use of AI solutions in educational contexts, considering cultural diversity and gender equity
- Train in the design and implementation of AI projects in the educational environmen
- Provide an in-depth understanding of the theoretical foundations of AI, including machine learning, neural networks, and natural language processing
- Develop skills to integrate AI projects effectively and ethically into the educational syllabus
- Understand the applications and impact of AI in teaching and learning, critically assessing its current and potential uses
- Apply generative AI to personalize and enrich teaching practice, creating adaptive educational materials
- Identify, evaluate, and apply the latest trends and emerging technologies in AI relevant to education, reflecting on their challenges and opportunities

Specific Objectives

Module 1. Development of Artificial Intelligence Projects in the Classroom

- Plan and design educational projects that effectively integrate AI in educational environments, mastering specific tools for its development
- Design effective strategies to implement AI projects in learning environments, integrating them in specific subjects to enrich and improve the educational process
- Develop educational projects applying machine learning to improve the learning experience, integrating AI in the design of educational games in playful learning
- Create educational chatbots to assist students in their learning processes and resolution of doubts, including intelligent agents in educational platforms to improve interaction and teaching
- Perform continuous analysis of AI in Education projects to identify areas for improvement and optimization

Module 2. Innovations and Emerging Trends in AI for Education

- 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

Module 3. Ethics and Legislation of Artificial Intelligence in Education

- Identify and apply ethical practices in the handling of sensitive data within the educational context, prioritizing responsibility and respect
- Analyze the social and cultural impact of AI in Education, assessing its influence on educational communities
- Understand legislation and policies related to the use of data in educational settings involving AI
- Define the intersection between AI, cultural diversity, and gender equity in the educational context
- Evaluate the impact of AI on educational accessibility, ensuring equity in access to knowledge

An educational experience without schedules or face-to-face classes, which you can access from any electronic device with an Internet connection. Even from your cell phone!"

03

Course Management

In its firm objective of providing the highest educational excellence, TECH has a first class teaching staff. These professionals have extensive work experience, which has allowed them to join educational centers of national reference. In this way, the syllabus will be characterized by having the most updated and complete contents in Artificial Intelligence Technologies in Education. In addition, teachers will provide the graduates with the most advanced technological tools to contribute to the improvement of academic results by their students.

The main experts in Artificial Intelligence in Education have joined forces in this academic itinerary to provide you with their knowledge in this subject"

Management

Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus 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
- 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. Nájera Puente, Juan Felipe

- Director of Studies and Research at the Council for Quality Assurance in Higher Education
- Data Analyst and Data Scientist
- 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

- Responsible for Technical Training at Securitas Seguridad España
- Education, Business and Marketing Specialist
- Product Manager in Electronic Security at Securitas Seguridad España
- Business Intelligence Analyst at Ricopia Technologies
- Computer Technician and Responsible for 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 Diploma will address AI projects in the educational field, based on a theoretical-practical approach. In this way, the syllabus will cover concepts such as machine learning, neural networks and natural language processing. In addition, it will offer a range of technologies, such as augmented reality or predictive analytics. In this way, teachers will investigate the latest trends to integrate them into the classroom and improve the teaching experience. The materials will also delve into the application of ethical principles, data policies and current legislations to use Artificial Intelligence responsibly.

You will master emerging Artificial Intelligence technologies to optimize educational environments and foster interactive learning"

Module 1. Development of Artificial Intelligence Projects in the Classroom

1.1. Planning and Design of AI Projects in Education with Algor Education
- 1.1.1. First Steps to Plan the Project
- 1.1.2. Knowledge Bases
- 1.1.3. Design of AI Projects in Education

1.2. Tools for the Development of Educational Projects with AI
- 1.2.1. Tools for Developing Educational Projects: TensorFlow Playground
- 1.2.2. Tools for Educational Projects in History
- 1.2.3. Tools for Educational Projects in Mathematics; Wolfram Alpha
- 1.2.4. Tools for Educational Projects in English: Grammarly

1.3. Strategies for Implementing AI Projects in the Classroom
- 1.3.1. When to Implement an AI Project
- 1.3.2. Why Implement an AI Project
- 1.3.3. Strategies to Be Implemented

1.4. Integration of AI Projects in Specific Subjects
- 1.4.1. Mathematics and AI: Thinkster Math
- 1.4.2. History and AI
- 1.4.3. Languages and AI: Deep L
- 1.4.4. Other Subjects: Watson Studio

1.5. Project 1: Developing Educational Projects Using Machine Learning with Khan Academy
- 1.5.1. First Steps
- 1.5.2. Requirements
- 1.5.3. Tools to Be Used
- 1.5.4. Project Definition

1.6. Project 2: Integration of AI in the Development of Educational Games
- 1.6.1. First Steps
- 1.6.2. Requirements
- 1.6.3. Tools to Be Used
- 1.6.4. Project Definition

1.7. Project 3: Development of Educational Chatbots for Student Assistance
- 1.7.1. First Steps
- 1.7.2. Requirements
- 1.7.3. Tools to Be Used
- 1.7.4. Project Definition

1.8. Project 4: Integrating Intelligent Agents into Educational Platforms with Knewton
- 1.8.1. First Steps
- 1.8.2. Requirements
- 1.8.3. Tools to Be Used
- 1.8.4. Project Definition

1.9. Evaluating and Measuring the Impact of AI Projects in Education with Qualtrics
- 1.9.1. Benefits of Working with AI in the Classroom
- 1.9.2. Actual Data
- 1.9.3. AI in the Classroom
- 1.9.4. AI Statistics in Education

1.10. Analysis and Continuous Improvement of AI in Education with Edmodo Insights
- 1.10.1. Current Projects
- 1.10.2. Commissioning
- 1.10.3. What the Future Holds
- 1.10.4. Transforming the Classroom 360

Module 2. Innovations and Emerging Trends in AI for Education

2.1. Emerging AI Tools and Technologies in Education
- 2.1.1. Obsolete AI Tools
- 2.1.2. Current Tools: ClassDojo and Seesaw
- 2.1.3. Future Tools

2.2. Augmented and Virtual Reality in Education
- 2.2.1. Augmented Reality Tools
- 2.2.2. Virtual Reality Tools
- 2.2.3. Application of Tools and their Uses
- 2.2.4. Advantages and Disadvantages

2.3. Conversational AI for Educational Support and Interactive Learning with Wysdom AI and SnatchBot
- 2.3.1. Conversational AI, Why Now?
- 2.3.2. AI in Learning
- 2.3.3. Advantages and Disadvantages
- 2.3.4. Applications of AI in Learning

2.4. Application of AI for Improving Knowledge Retention
- 2.4.1. AI as a Support Tool
- 2.4.2. Guidelines to Follow
- 2.4.3. AI Performance in Knowledge Retention
- 2.4.4. AI and Support Tools

2.5. Facial and Emotional Recognition Technologies for Tracking Learner Engagement and Well-Being
- 2.5.1. Facial and Emotional Recognition Technologies on the Market Today
- 2.5.2. Uses
- 2.5.3. Applications
- 2.5.4. Margin of Error
- 2.5.5. Advantages and Disadvantages

2.6. Blockchain and AI in Education to Transform Educational Administration and Certification
- 2.6.1. What Is Blockchain?
- 2.6.2. Blockchain and Its Applications
- 2.6.3. Blockchain as a Transformative Element
- 2.6.4. Educational Administration and Blockchain

2.7. Emerging AI Tools to Enhance the Learning Experience with Squirrel AI Learning
- 2.7.1. Current Projects
- 2.7.2. Commissioning
- 2.7.3. What the Future Holds
- 2.7.4. Transforming the Classroom 360

2.8. Strategies for Developing Pilots with Emerging AI
- 2.8.1. Advantages and Disadvantages
- 2.8.2. Strategies to be Developed
- 2.8.3. Key Points
- 2.8.4. Pilot Projects

2.9. Analysis of Successful AI Innovation Cases
- 2.9.1. Innovative Projects
- 2.9.2. Application of AI and its Benefits
- 2.9.3. AI in the Classroom, Successful Cases

2.10. Future of AI in Education
- 2.10.1. AI History in Education
- 2.10.2. Where is AI going in the Classroom?
- 2.10.3. Future Projects

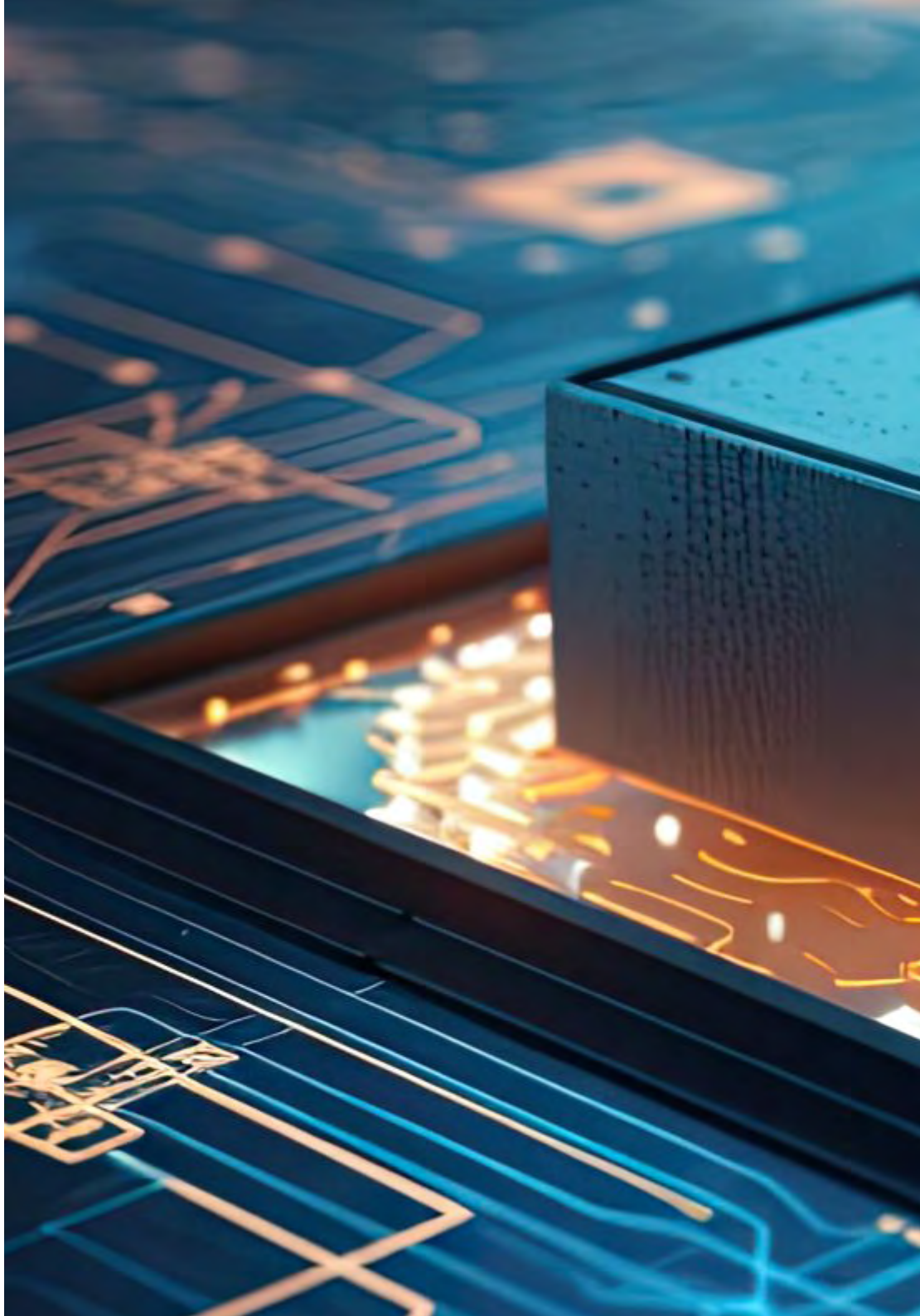
Module 3. Ethics and Legislation of Artificial Intelligence in Education

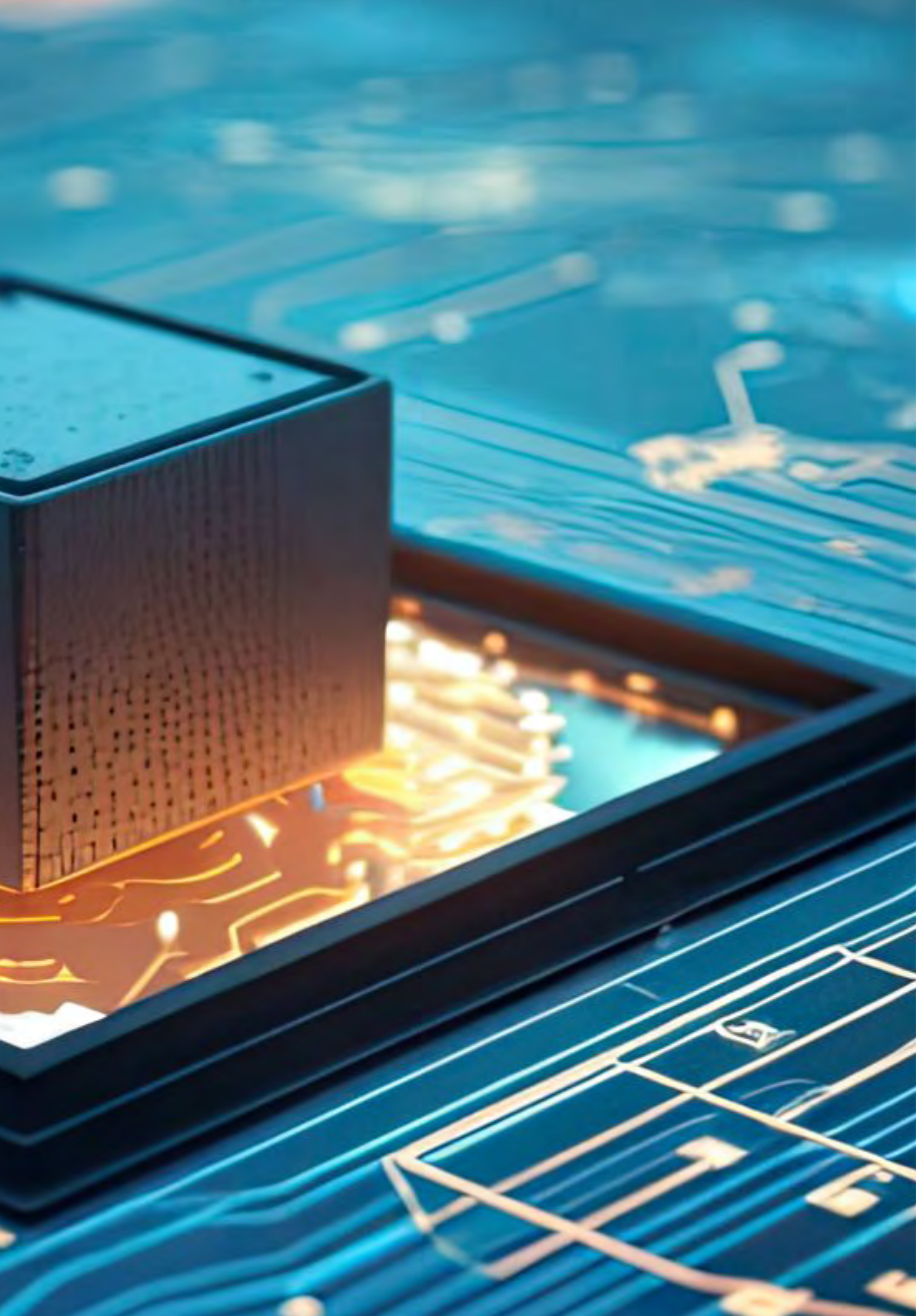
3.1. Identification and Ethical Treatment of Sensitive Data in the Educational Context
- 3.1.1. Principles and Practices for the Ethical Handling of Sensitive Data in Education
- 3.1.2. Challenges in Protecting the Privacy and Confidentiality of Student Data
- 3.1.3. Strategies for Ensuring Transparency and Informed Consent in Data Collection

3.2. Social and Cultural Impact of AI in Education
- 3.2.1. Analysis of the Effect of AI on Social and Cultural Dynamics in Educational Environments
- 3.2.2. Exploring How Microsoft AI for Accessibility Can Perpetuate or Mitigate Social Biases and Inequalities
- 3.2.3. Assessing the Social Responsibility of Developers and Educators in the implementation of AI

3.3. AI Legislation and Data Policy in Educational Settings
- 3.3.1. Review of Current Data and Privacy Laws and Regulations Applicable to AI in Education
- 3.3.2. Impact of Data Policies on Educational Practice and Technological Innovation
- 3.3.3. Developing Institutional Policies for the Ethical Use of AI in Education with AI Ethics Lab

3.4. Assessing the Ethical Impact of AI
- 3.4.1. Methods for Assessing the Ethical Implications of AI Applications in Education
- 3.4.2. Challenges in Measuring the Social and Ethical Impact of AI
- 3.4.3. Creating Ethical Frameworks to Guide the Development and Use of AI in Education





3.5. Challenges and Opportunities of AI in Education
- 3.5.1. Identification of Major Ethical and Legal Challenges in the Use of AI in Education
- 3.5.2. Exploring Opportunities to Improve Teaching and Learning through Squirrel AI Learning
- 3.5.3. Balancing Technological Innovation and Ethical Considerations in Education

3.6. Ethical Application of AI Solutions in the Educational Environment
- 3.6.1. Principles for Ethical Design and Deployment of AI Solutions in Education
- 3.6.2. Case Studies on Ethical Applications of AI in Different Educational Contexts
- 3.6.3. Strategies for Involving All Stakeholders in Ethical AI Decision-Making

3.7. AI, Cultural Diversity and Gender Equity
- 3.7.1. Analysis of the Impact of AI on the Promotion of Cultural Diversity and Gender Equity in Education
- 3.7.2. Strategies for Developing Inclusive and Diversity-Sensitive AI Systems with Teachable Machine by Google
- 3.7.3. Assessment of how AI can Influence the Representation and Treatment of Different Cultural and Gender Groups

3.8. Ethical Considerations for the use of AI Tools in Education
- 3.8.1. Ethical Guidelines for the Development and Use of AI Tools in the Classroom
- 3.8.2. Discussion on the Balance between Automation and Human Intervention in Education
- 3.8.3. Analysis of Cases where the use of AI in Education has Raised Significant Ethical Issues

3.9. Impact of AI on Educational Accessibility
- 3.9.1. Exploration of how AI can Enhance or Limit Accessibility in Education
- 3.9.2. Analysis of AI Solutions Designed to Increase Inclusion and Access to Education for All with Google Read Along
- 3.9.3. Ethical Challenges in Implementing AI Technologies to Improve Accessibility

3.10. Global Case Studies in AI and Education
- 3.10.1. Analysis of International Case Studies on the Use of AI in Education
- 3.10.2. Comparison of Ethical and Legal Approaches in Different Educational] Cultural Contexts
- 3.10.3. Lessons Learned and Best Practices from Global Cases in AI and Education

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

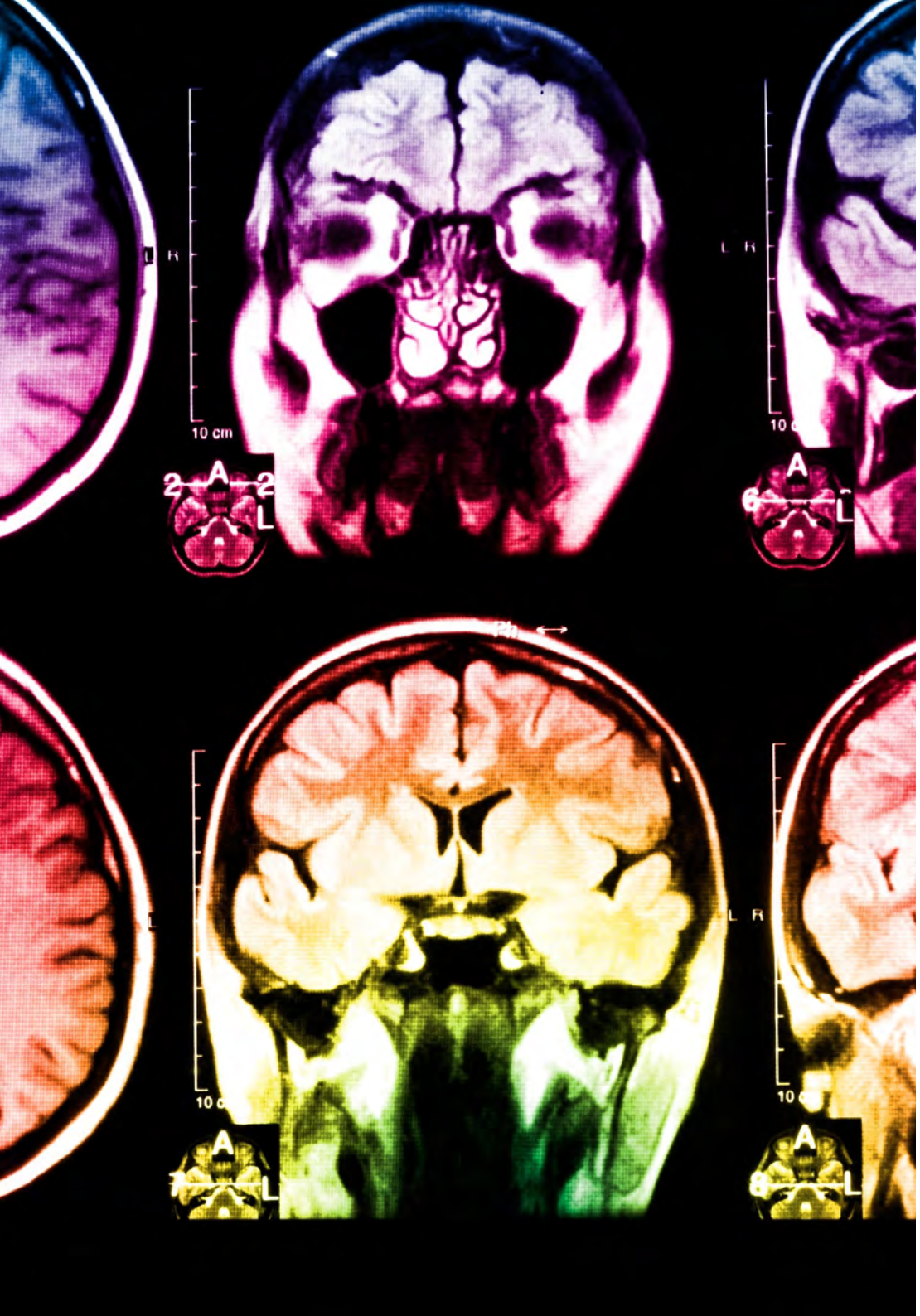
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.

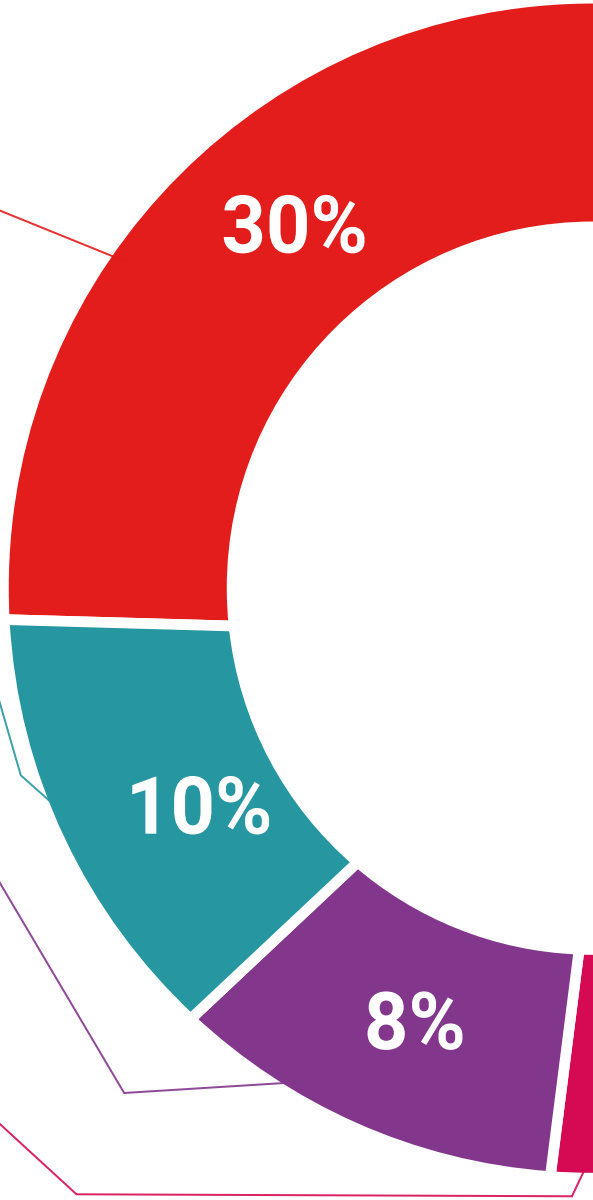
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

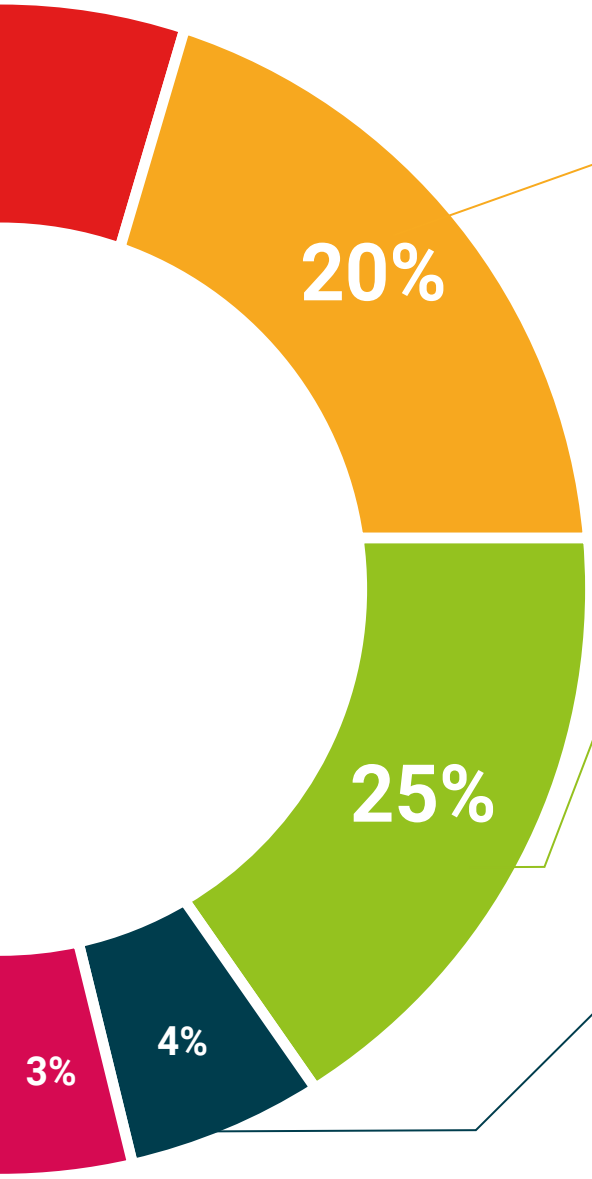
Practising Skills and Abilities

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 Diploma in Artificial Intelligence Technologies in Education 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 Diploma in Artificial Intelligence Technologies in Education** contains the most complete and up-to-date educational program on the market.

After the students have passed the assessments, they will receive their corresponding **Postgraduate Diploma** issued by **TECH Technological University** via tracked delivery*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Diploma, and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional career evaluation committees.

Title: **Postgraduate Diploma in Artificial Intelligence Technologies in Education**

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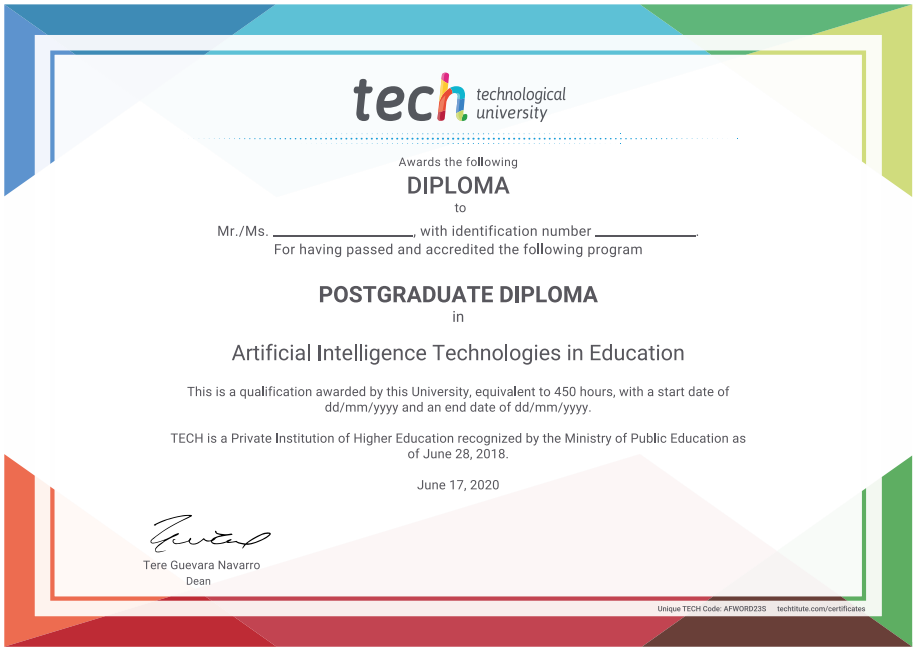
Duration: **6 months**


tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.

For having passed and accredited the following program

POSTGRADUATE DIPLOMA

in

Artificial Intelligence Technologies in Education

This is a qualification awarded by this University, equivalent to 450 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro

Dean

Unique TECH Code: AFWORD23S techtitute.com/certificates

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

tech technological university

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Artificial Intelligence Technologies in Education

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Postgraduate Diploma

Artificial Intelligence Technologies in Education

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