Postgraduate Diploma Application of Artificial Intelligence Techniques for the Teaching Profession





Postgraduate Diploma Application of Artificial Intelligence Techniques for the Teaching Profession

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

Website: www.techtitute.com/pk/artificial-intelligence/postgraduate-diploma/postgraduate-diploma-application-artificial-intelligence-techniques-teaching-profession

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06 Certificate

01 Introduction

New technologies have completely revolutionized the education sector and teachers are enriching their teaching procedures with advanced tools, including Artificial Intelligence (AI). These systems have a wide variety of applications, ranging from predictive analysis of academic performance to the development of assessment tests. In this way, Machine Learning is extremely useful in classrooms to provide dynamic academic experiences.

For example, teachers use AI integration to create highly educational games. In this way, students can expand their knowledge in a natural and playful way. For this reason, TECH implements an online training that will provide implementation strategies for educational projects, using Intelligent Automation.

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You will delve into the personalization of learning with Artificial Intelligence in the best digital university in the world, according to Forbes"

tech 06 | Introduction

Each student may have different learning difficulties, and educators are responsible for detecting signs of these difficulties. In this context, Learning Automation makes it easier for the teaching team to create personalized teaching plans that adapt to both the strengths and weaknesses of each student.

In turn, Artificial Intelligence helps users to significantly improve their academic results and retain knowledge over a long period of time. One example of this is the integration of intelligent agents in educational platforms. By means of materials such as chatbots, students can ask questions about educational content and obtain effective and immediate answers. This also helps teachers to free themselves from certain tasks, focusing on other more important ones.

Faced with this reality, TECH has launched a pioneering program that will delve into the optimization of teaching practice through Artificial Intelligence. Designed by specialists in this area, the syllabus will promote the personalization of learning based on academic performance data, supported by algorithms. In line with this, the syllabus will offer experts innovative strategies to develop various educational projects, for example, games for learning.

In turn, the didactic materials will analyze the application of Machine Learning tools for educational planning. Graduates will use them to create didactic materials, correct exams and generate surveys to improve their academic proposals.

Moreover, the methodology of this program reinforces its innovative character. TECH offers a 100% online educational environment, tailored 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. In this way, the combination of flexibility and a robust pedagogical approach makes it highly accessible. This **Postgraduate Diploma in Application of Artificial Intelligence Techniques for the Teaching Profession** 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 Application of Artificial Intelligence Techniques for the Teaching Profession
- 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 develop teacher quality assessment surveys to take advantage of your students' feedback and optimize your educational plans"

Introduction | 07 tech

Thanks to the revolutionary Relearning methodology, you will integrate all the knowledge in an optimal way to successfully achieve the results you are looking for" Do you want to enrich your educational decision-making? Achieve it with the Intelligent Automation tools that this program will provide you.

You will use Data Analysis to effectively prevent and solve educational problems. Enroll now!

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.

02 **Objectives**

This university training will provide students with a comprehensive vision of Machine Learning applications in educational environments, promoting better teaching practices. Graduates will incorporate the latest technologies and algorithms to improve student performance. In turn, they will identify specific educational needs and implement concrete actions to boost the teaching process. They will also create chatbots capable of assisting their students in case of doubts. In line with this, they will use generative Artificial Intelligence to correct evaluative tests, which will significantly speed up these procedures.

You will design the most dynamic didactic projects to enrich your students' learning, such as educational games"

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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 Artificial Intelligence in educational settings
- Develop critical skills to evaluate the ethical and social impact of Artificial Intelligence in education
- Promote the design and responsible use of Artificial Intelligence solutions in educational contexts, considering cultural diversity and gender equity
- Train in the design and implementation of Artificial Intelligence projects in the educational environment
- Provide a deep understanding of the theoretical foundations of Artificial Intelligence, including machine learning, neural networks and natural language processing
- Develop skills to integrate Artificial Intelligence projects effectively and ethically into educational syllabus
- Understand the applications and impact of Artificial Intelligence in teaching and learning, critically assessing its current and potential uses
- Apply generative Artificial Intelligence to personalize and enrich teaching practice, creating adaptive educational materials
- Identify, evaluate and apply the latest trends and emerging technologies in Artificial Intelligence relevant to education, reflecting on their challenges and opportunities





Specific Objectives

Module 1. Data Analysis and Application of Artificial Intelligence Techniques for Educational Personalization

- Apply Artificial Intelligence in the analysis and evaluation of educational data to drive continuous improvement in educational environments
- Define academic performance indicators based on educational data to measure and improve student performance
- Implement Artificial Intelligence technologies and algorithms to perform predictive analytics of academic performance data
- Perform personalized diagnostics of learning difficulties through data analysis with Artificial Intelligence, identifying particular educational needs and designing targeted interventions
- Address security and privacy in the treatment of educational data when applying Artificial Intelligence tools, ensuring regulatory and ethical compliance

Module 2. Development of Artificial Intelligence Projects in the Classroom

- Plan and design educational projects that effectively integrate Artificial Intelligence in educational environments, mastering specific tools for its development
- Design effective strategies to implement Artificial Intelligence 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 Artificial Intelligence 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 Artificial Intelligence in Education projects to identify areas for improvement and optimization

Module 3. Teaching Practice with Generative Artificial Intelligence

- Master generative Artificial Intelligence technologies for their application and effective use in educational environments, planning effective educational activities
- Create didactic materials using generative Artificial Intelligence to improve the quality and variety of learning resources, as well as to measure students' progress in an innovative way
- Use generative Artificial Intelligence to correct evaluative activities and tests, streamlining and optimizing this process
- Integrate generative Artificial Intelligence tools in pedagogical strategies to improve the effectiveness of the educational process and design inclusive learning environments, under the universal design approach
- Evaluate the effectiveness of generative AI in education, analyzing its impact on teaching and learning processes

03 Course Management

For this Postgraduate Diploma, TECH has the support of a prestigious teaching staff, who have extensive work experience and are currently active professionals in highly renowned institutions. In addition, they are defined by having extensive knowledge about the most advanced procedures of Artificial Intelligence applied to the field of teaching. In this way, graduates will have the guarantees they require to update their discernment and obtain new skills with which to enrich their teaching practice. They will also be qualified to take advantage of the job opportunities offered by a constantly evolving industry.

An experienced teaching team will accompany you throughout the learning process and resolve any doubts that may arise"

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Management



Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO at Korporate Technologies
- CTO at Al 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
- 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

Course Management | 15 tech



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

04 Structure and Content

This university program will focus on the development of Artificial Intelligence projects in the educational field. For this purpose, the syllabus will provide teachers with the most advanced Machine Learning tools, aimed at making educational decisions. The syllabus will delve into a variety of algorithms for predictive data analysis, corresponding to academic performance. It will also address in detail how Artificial Intelligence contributes to aspects such as evaluation or personalization of learning. It will also provide the keys for the application of useful pedagogical strategies for the correction of activities and the development of teaching materials.

This Postgraduate Diploma merges teaching excellence with the technological revolution of Artificial Intelligence, so that you can stay at the forefront of education"

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Module 1. Data Analysis and Application of AI Techniques for Educational Personalization

- 1.1. Identification, Extraction and Preparation of Educational Data
 - 1.1.1. Methods of Collection and Selection of Relevant Data in Educational Settings
 - 1.1.2. Data Cleaning and Normalization Techniques for Educational Analyses
 - 1.1.3. Importance of Data Integrity and Quality in Educational Research
- 1.2. Analysis and Evaluation of Educational Data with AI for Continuous Improvement in the Classroom
 - 1.2.1. Use of Machine Learning Techniques to Interpret Educational Trends and Patterns
 - 1.2.2. Evaluating the Impact of Pedagogical Strategies using Data Analytics
 - 1.2.3. Integration of AI-based Feedback for the Optimization of the Teaching Process
- 1.3. Definition of Academic Performance Indicators from Educational Data
 - 1.3.1. Establishment of Key Metrics for Evaluating Student Achievement
 - 1.3.2. Comparative Analysis of Indicators to Identify Areas for Improvement
 - 1.3.3. Correlation Between Academic Indicators and External Factors Using AI
- 1.4. Al Tools for Educational Decision Making and Monitoring
 - 1.4.1. Al-based Decision Support Systems for Educational Administrators
 - 1.4.2. Role of AI in Educational Resource Planning and Allocation
 - 1.4.3. Optimization of Educational Processes through Predictive Analytics
- 1.5. Al Technologies and Algorithms for Predictive Analysis of Academic Achievement Data
 - 1.5.1. Fundamentals of Predictive Modeling in Education
 - 1.5.2. Use of Classification and Regression Algorithms to Predict Trends in Education
 - 1.5.3. Case Studies of Successful Predictions in Educational Environments
- 1.6. Application of Data Analytics with AI for the Prevention and Solution of Educational Problems
 - 1.6.1. Early Identification of Academic Risks through Predictive Analytics
 - 1.6.2. Data-driven Intervention Strategies to Address Educational Challenges
 - 1.6.3. Assessing the Impact of Al-based Solutions in Education



Structure and Content | 19 tech

- 1.7. Personalized Diagnosis of Learning Difficulties from Data Analytics with Al
 - 1.7.1. AI Techniques for the Identification of Learning Styles and Learning Difficulties
 - 1.7.2. Integration of Data Analysis into Individualized Educational Support Plans
 - 1.7.3. Case Studies of Diagnoses Improved by the Use of AI
- 1.8. Data Analysis and Application of AI for Identification of Special Educational Needs
 - 1.8.1. Al Approaches to the Detection of Special Educational Needs
 - 1.8.2. Personalization of Teaching Strategies Based on Data Analysis
 - 1.8.3. Evaluation of the Impact of AI on Educational Inclusion
- 1.9. Personalization of Learning with AI from Academic Performance Data Analytics
 - 1.9.1. Creating Adaptive Learning Pathways using AI
 - 1.9.2. Implementation of Recommender Systems for Educational Resources
 - 1.9.3. Individual Progress Measurement and Real-Time Adjustments via AI
- 1.10. Security and Privacy in the Processing of Educational Data
 - 1.10.1. Ethical and Legal Principles in the Management of Educational Data
 - 1.10.2. Data Protection and Privacy Techniques in Al-based Educational Systems
 - 1.10.3. Case Studies on Security Breaches and their Impact on Education

Module 2. Development of Artificial Intelligence Projects in the Classroom

- 2.1. Planning and Design of Al Projects in Education
 - 2.1.1. First Steps to Plan the Project
 - 2.1.2. Knowledge Bases
 - 2.1.3. Design of AI Projects in Education
- 2.2. Tools for the Development of Educational Projects with AI
 - 2.2.1. Tools for the Development of Educational Projects
 - 2.2.2. Tools for Educational Projects in History
 - 2.2.3. Tools for Educational Projects in Mathematics
 - 2.2.4. Tools for Educational Projects in English
- 2.3. Strategies for Implementing AI Projects in the Classroom
 - 2.3.1. When to Implement an AI Project
 - 2.3.2. Why Implement an AI Project
 - 2.3.3. Strategies to be Implemented

- 2.4. Integration of IA Projects in Specific Subjects
 - 2.4.1. Mathematics and Al
 - 2.4.2. History and IA
 - 2.4.3. Languages and IA
 - 2.4.4. Other Subjects
- 2.5. Project 1: Developing educational projects using machine learning
 - 2.5.1. First Steps
 - 2.5.2. Requirements
 - 2.5.3. Tools to be Used
 - 2.5.4. Project definition
- 2.6. Project 2: Integration of AI in the Development of Educational Games
 - 2.6.1. First Steps
 - 2.6.2. Requirements
 - 2.6.3. Tools to be Used
 - 2.6.4. Project definition
- 2.7. Project 3: Development of Educational Chatbots for Student Assistance
 - 2.7.1. First Steps
 - 2.7.2. Requirements
 - 2.7.3. Tools to be Used
 - 2.7.4. Project definition
- 2.8. Project 4: Integration of Intelligent Agents in Educational Platforms
 - 2.8.1. First Steps
 - 2.8.2. Requirements
 - 2.8.3. Tools to be Used
 - 2.8.4. Project definition
- 2.9. Evaluating and Measuring the Impact of AI Projects in Education
 - 2.9.1. Benefits of Working with AI in the Classroom
 - 2.9.2. Actual Data
 - 2.9.3. IA in Classroom
 - 2.9.4. Al Statistics in Education

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- 2.10. Analysis and Continuous Improvement of AI in Education Projects
 - 2.10.1. Current Projects
 - 2.10.2. Commissioning
 - 2.10.3. What the Future Holds
 - 2.10.4. Transforming the Aulas 360

Module 3. Teaching Practice with Generative Artificial Intelligence

- 3.1. Generative AI Technologies for Use in Education
 - 3.1.1. Current Market
 - 3.1.2. Technologies in Use
 - 3.1.3. What is to Come
 - 3.1.4. The Future of the Classroom
- 3.2. Application of Generative AI Tools in Educational Planning
 - 3.2.1. Planning Tools
 - 3.2.2. Tools and their Application
 - 3.2.3. Education and AI
 - 3.2.4. Evolution
- 3.3. Creation of Didactic Materials with Generative AI
 - 3.3.1. Al and its Uses in the Classroom
 - 3.3.2. Tools to Create Didactic Material
 - 3.3.3. How to Work with the Tools
 - 3.3.4. Commands
- 3.4. Development of Evaluation Tests using Generative AI
 - 3.4.1. Al and its Uses in the Development of Evaluation Tests
 - 3.4.2. Tools for the Development of Evaluation Tests
 - 3.4.3. How to Work with the Tools
 - 3.4.4. Commands
- 3.5. Enhanced Feedback and Communication with Generative AI
 - 3.5.1. Al in Communication
 - 3.5.2. Application of Tools in the Development of Communication in the Classroom
 - 3.5.3. Advantages and Disadvantages



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Correction of Evaluative Activities and Tests using Generative AI 3.6. 3.6.1. All and its Uses in the Correction of Evaluative Activities and Tests Tools for the Correction of Evaluative Activities and Tests 3.6.2. 3.6.3. How to Work with the Tools 3.6.4. Commands Generation of Teacher Quality Assessment Surveys through Generative AI 3.7. 3.7.1. Al and its Uses in the Generation of Teaching Quality Assessment Surveys using Al 3.7.2. Tools for the Generation of Al-based Teacher Quality Surveys 3.7.3. How to Work with the Tools 3.7.4. Commands Integration of Generative AI Tools in Pedagogical Strategies 3.8. 3.8.1. Applications of AI in Pedagogical Strategies 3.8.2. Correct Uses Advantages and Disadvantages 3.8.3. Generative AI Tools in Pedagogical Strategies 3.8.4. Use of Generative AI for Universal Design for Learning 3.9. 3.9.1. Generative AI, Why Now? 3.9.2. Al in Learning 3.9.3. Advantages and Disadvantages 3.9.4. Applications of Al in Learning 3.10. Evaluating the Effectiveness of Generative AI in Education 3.10.1. Effectiveness Data 3.10.2. Projects 3.10.3. Design Purposes 3.10.4. Evaluating the Effectiveness of AI in 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"

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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.

Methodology | 25 tech



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.

tech 26 | Methodology

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.



Methodology | 27 tech

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.



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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.

30%

10%

8%

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.

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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.

20%

25%

4%

3%



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 Application of Artificial Intelligence Techniques for the Teaching Profession guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma issued by TECH Technological University.



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

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This **Postgraduate Diploma in Application of Artificial Intelligence Techniques for the Teaching Profession** 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 Diploma** issued by **TECH Technological University** via tracked delivery*.

The certificate 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 Application of Artificial Intelligence Techniques for the Teaching Profession

Official Nº of Hours: 450 h.



technological university Postgraduate Diploma Application of Artificial Intelligence Techniques for the Teaching Profession » Modality: online » Duration: 6 months » Certificate: TECH Technological University » Dedication: 16h/week » Schedule: at your own pace » Exams: online

Postgraduate Diploma Application of Artificial Intelligence Techniques for the Teaching Profession

