Postgraduate Certificate
Intelligent Agents and Artificial Intelligence

tec**h** global university

Postgraduate Certificate
Intelligent Agents and Artificial Intelligence

» Modality: **online**
» Duration: **6 weeks**
» Certificate: **TECH Global University**
» Credits: **6 ECTS**
» Schedule: **at your own pace**
» Exams: **online**

Website: **www.techtitute.com/us/engineering/postgraduate-certificate/intelligent-agents-artificial-intelligence**

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01
Introduction

Entender la inteligencia, el cerebro o el alma, y reproducirla ha sido una constante en la historia de la investigación. A partir de principios del siglo XX Turing y los científicos reunidos en Dartmouth, sentaron las bases de lo que hoy conocemos como Inteligencia Artificial. Un camino que ha sufrido importantes avances en los últimos años encontrando esta tecnología gran aplicación en el área de la salud, el comercio o servicios financieros. Este programa universitario aporta al profesional de la ingeniería el conocimiento más actualizado en IA para que pueda alcanzar su meta de progresar en un sector con amplias salidas laborales. Todo ello con una enseñanza online con contenido multimedia acorde a los tiempos académicos actuales.

A university degree that will allow you to design a robotic agent controlled by Artificial Intelligence"

Thirty years ago Artificial Intelligence was reserved for science fiction, however, today it is a reality and more and more different economic sectors are benefiting from its technological advances. Progress that also contributes to society. All this would not be possible without the work of professional engineers who have succeeded in creating systems capable of learning from the environment, finding a solution or adapting to a changing environment.

This Postgraduate Certificate provides students with advanced knowledge in complex AI algorithms, fundamental to understanding the mathematical and conceptual basis that this technology is built upon. A program that will allow the engineering professional to delve into the logical and mathematical foundations of reasoning and learning that have allowed the development of algorithms for route finding, computer vision, language processing or robot control.

A program with an advanced theoretical framework, but with an eminently practical approach that will allow students to directly apply all the learning acquired to practical use cases. This is all possible thanks to the specialized team that lead this Postgraduate Certificate.

An excellent opportunity for the engineering professional who aspires to improve their professional career with fully online program. A flexible teaching method allows you to take this program whilst juggling work and/or other personal responsibilities. All of this, plus multimedia content that you can access from day one, whenever and wherever you want. All you need is an electronic device with an Internet connection to connect to the virtual platform and start making progress in a booming sector.

The **Postgraduate Certificate in Intelligent Agents and Artificial Intelligence** contains the most complete and up-to-date program on the market. The most important features include:

◆ Case studies presented by experts in robotic engineering

◆ The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the 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 work

◆ Content that is accessible from any fixed or portable device with an Internet connection

Access a university program that brings you the most up-to-date multimedia content in the field of AI and Intelligent Agents"

"

An education that will allow you to master the key professional tools for the development of the intelligent agent"

Dominate Deep Learning with this Postgraduate Certificate. You are just one click away from improving your professional career. Enroll now.

This Postgraduate Certificate allows you to delve deeper into supervised, unsupervised and automatic learning.

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

Its 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 an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.
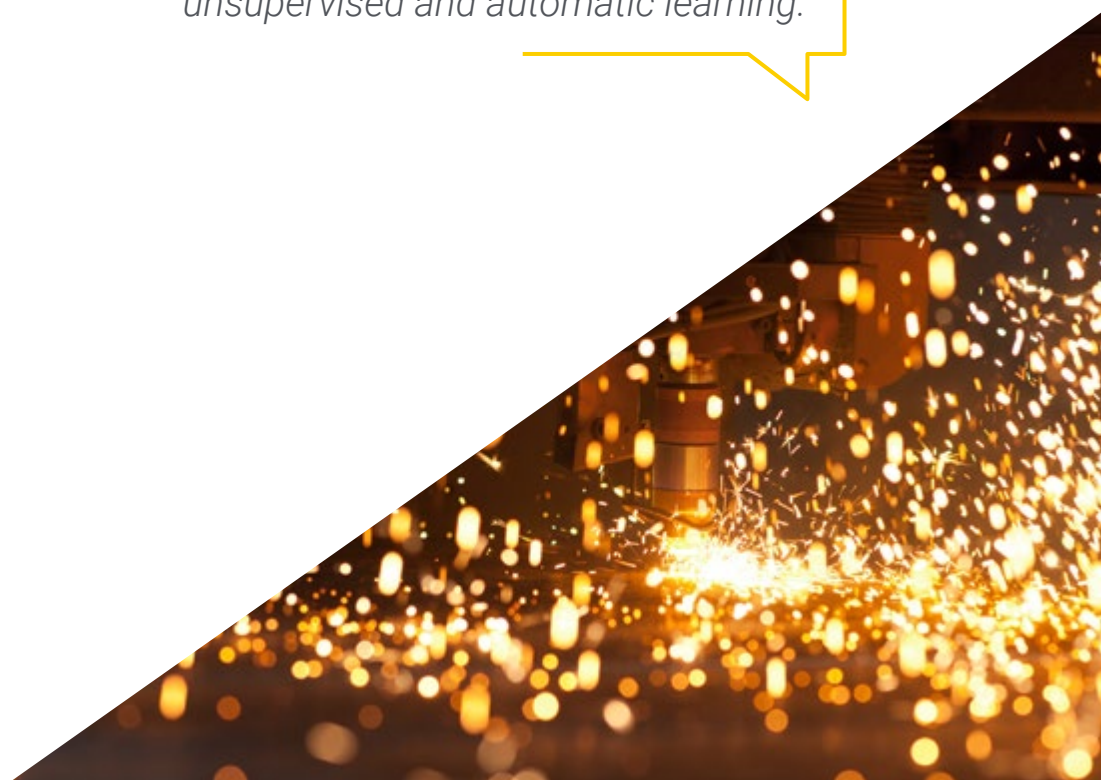
Objectives

This Postgraduate Certificate has been created with the objective of giving the engineers access to the most recent and up-to-date content in the field of Intelligent Agents and Artificial Intelligence. Therefore, at the end of the 6 weeks of this Postgraduate Certificate you will be able to determine how the most advanced AI techniques can be implemented on Intelligent Agents, as well as learning about specific algorithms and identifying those present in today's society. All of this will be possible thanks to the support you will receive from the expert Robotics teaching team that makes up this online program.

A 100% online program in the robotics industry with a practical and applicable approach. Progress in your professional career with TECH"

General Objectives

- Develop the theoretical and practical foundations necessary to carry out a robot design and modeling project
- Provide the graduates with an exhaustive knowledge of the automation of industrial processes that will allow them to develop their own strategies
- Acquire the professional skills of an expert in automatic control systems in Robotics

A Postgraduate Certificate that will give you a boost in your career within the field of Robots and Artificial Intelligence. Click and enroll"

Specific Objectives

- Analyze the biological inspiration of Artificial Intelligence and intelligent agents
- Assess the need for intelligent algorithms in today's society
- Determine the applications of advanced Artificial Intelligence techniques on Intelligent Agents
- Demonstrate the strong connection between Robotics and Artificial Intelligence
- Establish the needs and challenges presented by Robotics that can be solved with Intelligent Algorithms
- Develop concrete implementations of Artificial Intelligence Algorithms
- Identify Artificial Intelligence algorithms that are established in today's society and their impact on daily life

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Course Management

The management and teaching team that make up this degree have extensive professional experience in the robotics industry, as well as extensive experience in AI projects. Thanks to their knowledge in this field, they have been chosen by TECH to offer a quality program that allows students to prosper in a booming technological sector with great demand for labor.

A teaching team with experience in Artificial Intelligence projects will show you the latest innovations in this field. Enroll now"

Management

Dr. Ramón Fabresse, Felipe

- Senior Software Engineer at Acurable
- NLP Software Engineer at Intel Corporation
- Software Engineer in CATEC, Indisys
- Researcher in Aerial Robotics at the University of Seville
- PhD Cum Laude in Robotics, Autonomous Systems and Telerobotics at the University of Seville
- Degree in Computer Engineering at the University of Seville
- Master's Degree in Robotics, Automation and Telematics at the University of Seville

Professors

Mr. Campos Ortiz, Roberto

- Software Engineer Quasar Scence Resources
- Software Engineer at the European Space Agency (ESA-ESAC) for the Solar Orbiter mission
- Content creator and Artificial Intelligence expert in the course: "Artificial Intelligence: The technology of the present-future" for the Andalusian Regional Government.
  Euroformac Group
- Quantum Computing Scientist Zapata Computing Inc
- Graduated in Computer Engineering at Carlos III University
- Master in Computer Science and Technology at Carlos III University

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Structure and Content

The syllabus of this Postgraduate Certificate is designed to provide students with the most comprehensive knowledge on intelligent robots and agents. With teaching that will delve into the foundation behind this technology, and during 6 weeks of this program that'll also cover the brain-algorithm connection and its applications, machine learning, before finally leading the engineering professional to develop Developing a Robotic Intelligent Agent. The video summaries of each topic, the specialized readings and the real cases provided by the teaching team will facilitate learning and practical application in the professional's day-to-day work.
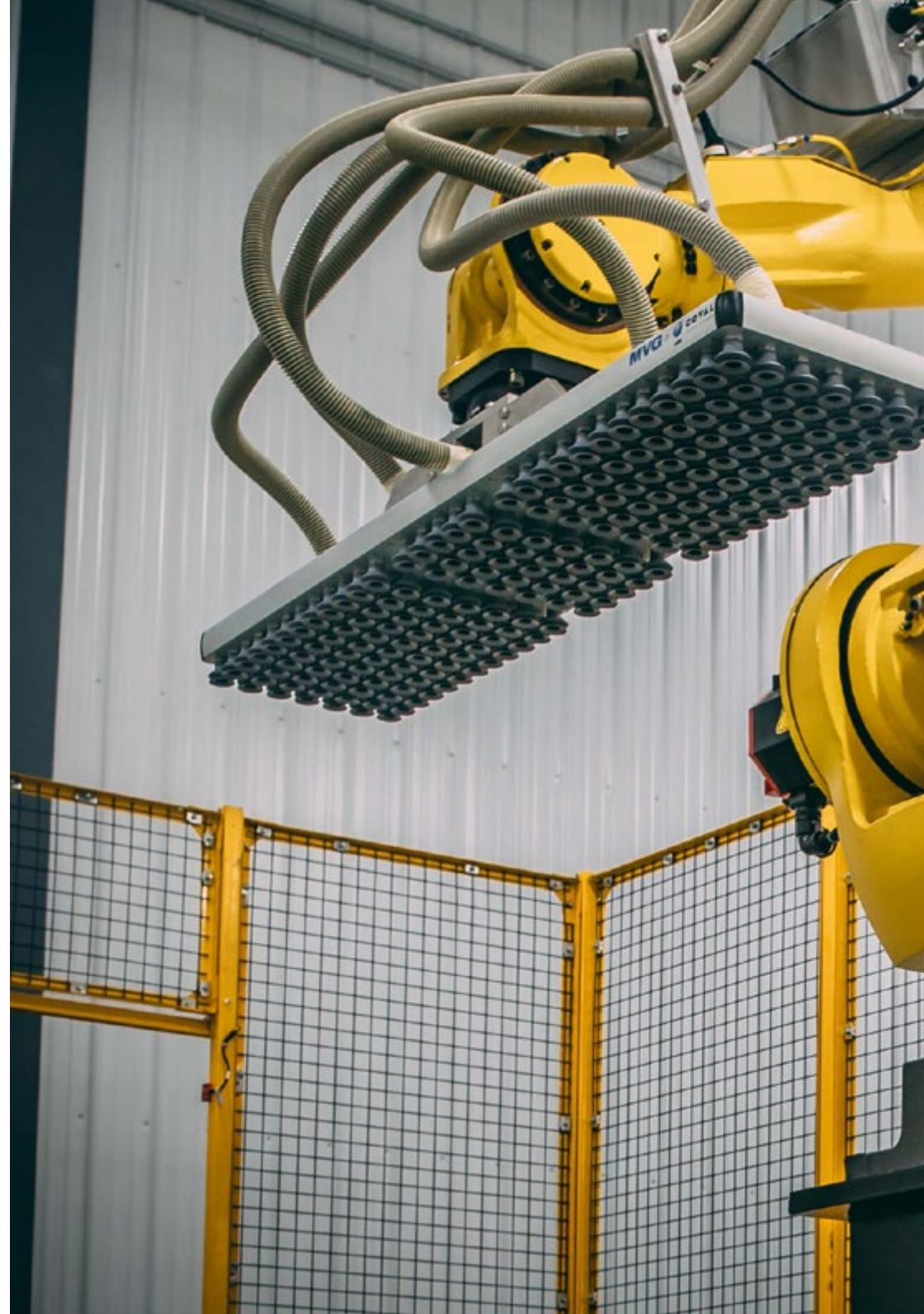
Advance your career and immerse yourself in Intelligence and its application in robots and softbots"

Module 1. Intelligent Agents. Applying Artificial Intelligence to Robots and Softbots

1.1. Intelligent Agents and Artificial Intelligence

    1.1.1. Intelligent Robots. Artificial Intelligence

    1.1.2. Intelligent Agents

        1.1.2.1. Hardware Agents. Robots

        1.1.2.2. Software Agents. Softbots

1.2. Brain-Algorithm Connection

    1.2.1. Biological Inspiration of Artificial Intelligence

    1.2.2. Reasoning Implemented in Algorithms. Typology

    1.2.3. Explainability of Results in Artificial Intelligence Algorithms

    1.2.4. Evolution of Algorithms up to Deep Learning

1.3. Search Algorithms in the Solution Space

    1.3.1. Elements in Solution Space Searches

    1.3.2. Solution Space Search Algorithms in Artificial Intelligence Problems

    1.3.3. Applications of Search and Optimization Algorithms

    1.3.4. Search Algorithms Applied to Machine Learning

1.4. Machine Learning

    1.4.1. Machine Learning

    1.4.2. Supervised Learning Algorithms

    1.4.3. Unsupervised Learning Algorithms

    1.4.4. Reinforcement Learning Algorithms

1.5. Supervised Learning

    1.5.1. Supervised Learning Methods

    1.5.2. Decision Trees for Classification

    1.5.3. Support Vector Machines

    1.5.4. Artificial Neural Networks

    1.5.5. Applications of Supervised Learning

1.6. Unsupervised Learning

    1.6.1. Unsupervised Learning

    1.6.2. Kohonen Networks

    1.6.3. Self-Organizing Maps

    1.6.4. K-Means Algorithm

Enroll now and apply the latest algorithmic advances in Artificial Intelligence projects"

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 is the most widely used learning system in the best faculties in the world. 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 program, the studies 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 8 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.

01 learning from evidence

02 relearning from evidence

03 testing

04 learning from an expert

05 neurocognitive context dependent learning

06 Von-Restorff effect

07 case based learning through storytelling

08 competencies testing (retesting)

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.

30%

10%

8%

20%

25%

4%

3%

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.

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Certificate

The Postgraduate Certificate in Intelligent Agents and Artificial Intelligence guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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

This program will allow you to obtain your **Postgraduate Certificate in Intelligent Agents and Artificial Intelligence** endorsed by **TECH Global University**, the world's largest online university.

TECH Global University is an official European University publicly recognized by the Government of Andorra (*official bulletin*). Andorra is part of the European Higher Education Area (EHEA) since 2003. The EHEA is an initiative promoted by the European Union that aims to organize the international training framework and harmonize the higher education systems of the member countries of this space. The project promotes common values, the implementation of collaborative tools and strengthening its quality assurance mechanisms to enhance collaboration and mobility among students, researchers and academics.

This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Intelligent Agents and Artificial Intelligence**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

tech global university

Mr./Ms. _____, with identification document _____ has successfully passed and obtained the title of:

Postgraduate Certificate in Intelligent Agents and Artificial Intelligence

This is a program of 180 hours of duration equivalent to 6 ECTS, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH Global University is a university officially recognized by the Government of Andorra on the 31st of January of 2024, which belongs to the European Higher Education Area (EHEA).

In Andorra la Vella, on the 28th of February of 2024

Dr. Pedro Navarro Illana
Rector

This qualification must always be accompanied by the university degree issued by the competent authority to practice professionally in each country.

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 Global University will make the necessary arrangements to obtain it, at an additional cost.

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