Postgraduate Certificate
Ethical and Legal Aspects of Artificial Intelligence in Diagnostic Imaging

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Postgraduate Certificate
Ethical and Legal Aspects
of Artificial Intelligence in
Diagnostic Imaging

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

Website: **www.techtitute.com/us/artificial-intelligence/postgraduate-certificate/ethical-legal-aspects-artificial-intelligence-diagnostic-imaging**

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01
Introduction

The integration of Artificial Intelligence in Diagnostic Imaging represents an unprecedented opportunity to improve diagnostic accuracy and optimize resources in the medical field. However, this technological transformation is not without ethical and legal challenges that healthcare professionals must consider. Only in this way will specialists be able to ensure that the use of Artificial Intelligence in Diagnostic Imaging benefits both professionals and patients. In order to support them in this task, TECH presents an innovative university program focused on the Ethical and Legal Aspects of Artificial Intelligence in Diagnostic Imaging. It is also taught in a convenient 100% online modality.

With this 100% online Postgraduate Certificate, you will master the Ethical and Legal Aspects related to the implementation of Artificial Intelligence in Diagnostic Imaging"

As Artificial Intelligence becomes an essential tool in Diagnostic Imaging, ethical and legal issues arise that need to be addressed. In fact, the World Health Organization has pointed out the need to implement a robust ethical framework to guide the use of these technologies, which must be aligned with the rights and dignity of patients. In this context, specialists need to have a comprehensive knowledge of the ethical and legal factors involved in the use of this tool in the clinical setting.

In this scenario, TECH creates an exclusive Postgraduate Certificate in Ethical and Legal Aspects of Artificial Intelligence in Diagnostic Imaging. Designed by references in this field, the academic itinerary will delve into the legal and regulatory considerations in Artificial Intelligence applied to medical imaging with Compliance.ai. Along the same lines, the syllabus will delve into factors ranging from informed consent or transparency in the use of clinical data to respect for patient autonomy in decisions based on Artificial Intelligence. Thanks to this, graduates will develop advanced skills with which they will evaluate ethical situations related to the use of this tool in medical practice, while at the same time applying the relevant legal regulations in this field to guarantee both data protection and compliance with the law.

Moreover, in terms of methodology, the program is taught 100% online, giving physicians the opportunity to access the content from anywhere and at any time, adapting the study to their schedules. In addition, TECH employs its revolutionary learning method: Relearning. This system consists of the repetition of key concepts to fix knowledge and facilitate lasting learning. In addition, the only thing that graduates will need is an electronic device with an Internet connection to access the Virtual Campus.

This **Postgraduate Certificate in Ethical and Legal Aspects of Artificial Intelligence in Diagnostic Imaging** contains the most complete and up-to-date program on the market. The most important features include:

- Development of practical cases presented by experts in Artificial Intelligence
- The graphic, schematic and eminently practical contents with which it is conceived gather scientific and practical information on those disciplines that are indispensable 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

Position yourself in the job market with a 100% online program that adapts to your needs and allows you to update your knowledge in an immersive way"

" *Do you want to develop critical thinking skills to evaluate the impact of Artificial Intelligence in clinical decision making? Achieve it with this university program*"
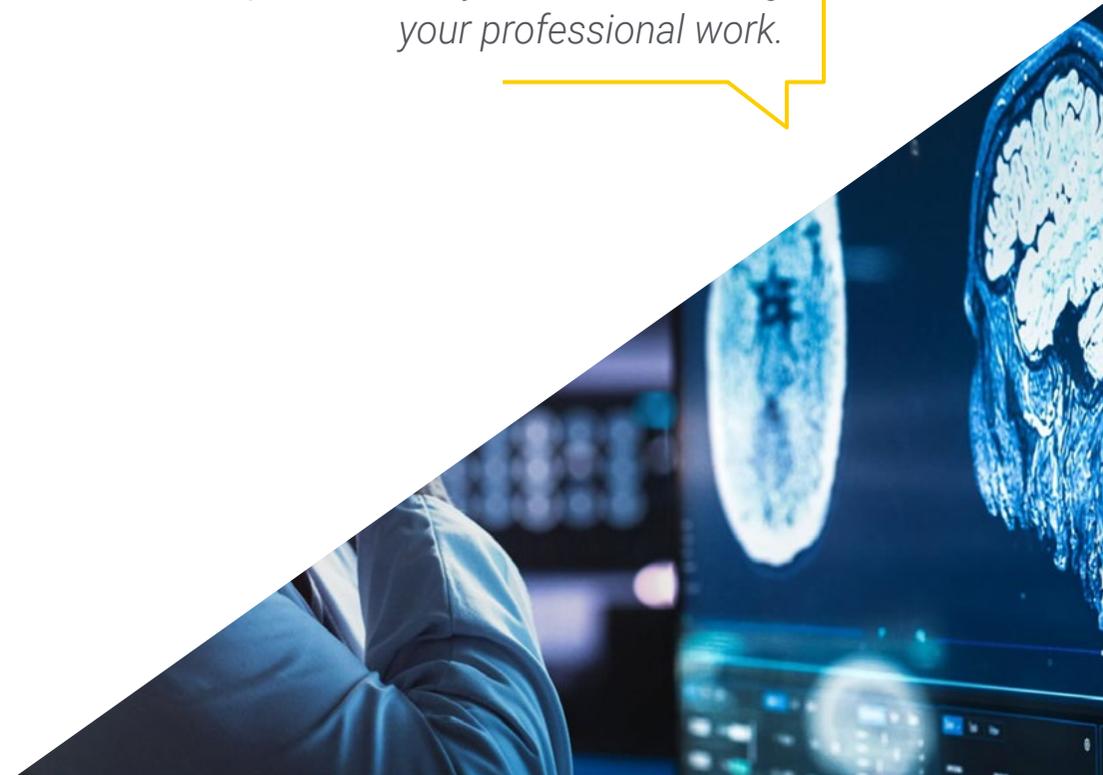
You will delve into the regulations on the transparency of Artificial Intelligence algorithms in the healthcare field.

TECH's online methodology will allow you to choose the time and place to study, without hindering your professional work.

The program's teaching staff includes professionals from the field who contribute their work experience to this educational 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

Through this Postgraduate Certificate, physicians will have a holistic understanding of the Ethical and Legal Aspects of Artificial Intelligence in Diagnostic Imaging. Likewise, graduates will develop advanced skills that will enable them to address ethical situations related to the use of Artificial Intelligence in their daily practice; including respect for the dignity and rights of patients. At the same time, professionals will apply the legal regulations relevant to the use of this emerging tool in healthcare, ensuring data protection and compliance with the law.

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"You will perform ethical and legal impact assessments of the implementation of Artificial Intelligence systems in Diagnostic Imaging, identifying possible risks to data security"

General Objectives

- Understand the theoretical foundations of Artificial Intelligence
- Study the different types of data and understand the data life cycle
- 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
- Explore bio-inspired computing and its relevance in the development of intelligent systems
- Develop skills to use and apply advanced Artificial Intelligence tools in the interpretation and analysis of medical images, improving diagnostic accuracy
- Implement Artificial Intelligence solutions that allow the automation of processes and the personalization of diagnostics
- Apply Data Mining and Predictive Analytics techniques to make evidence-based clinical decisions
- Acquire research skills that allow experts to contribute to the advancement of Artificial Intelligence in Medical Imaging
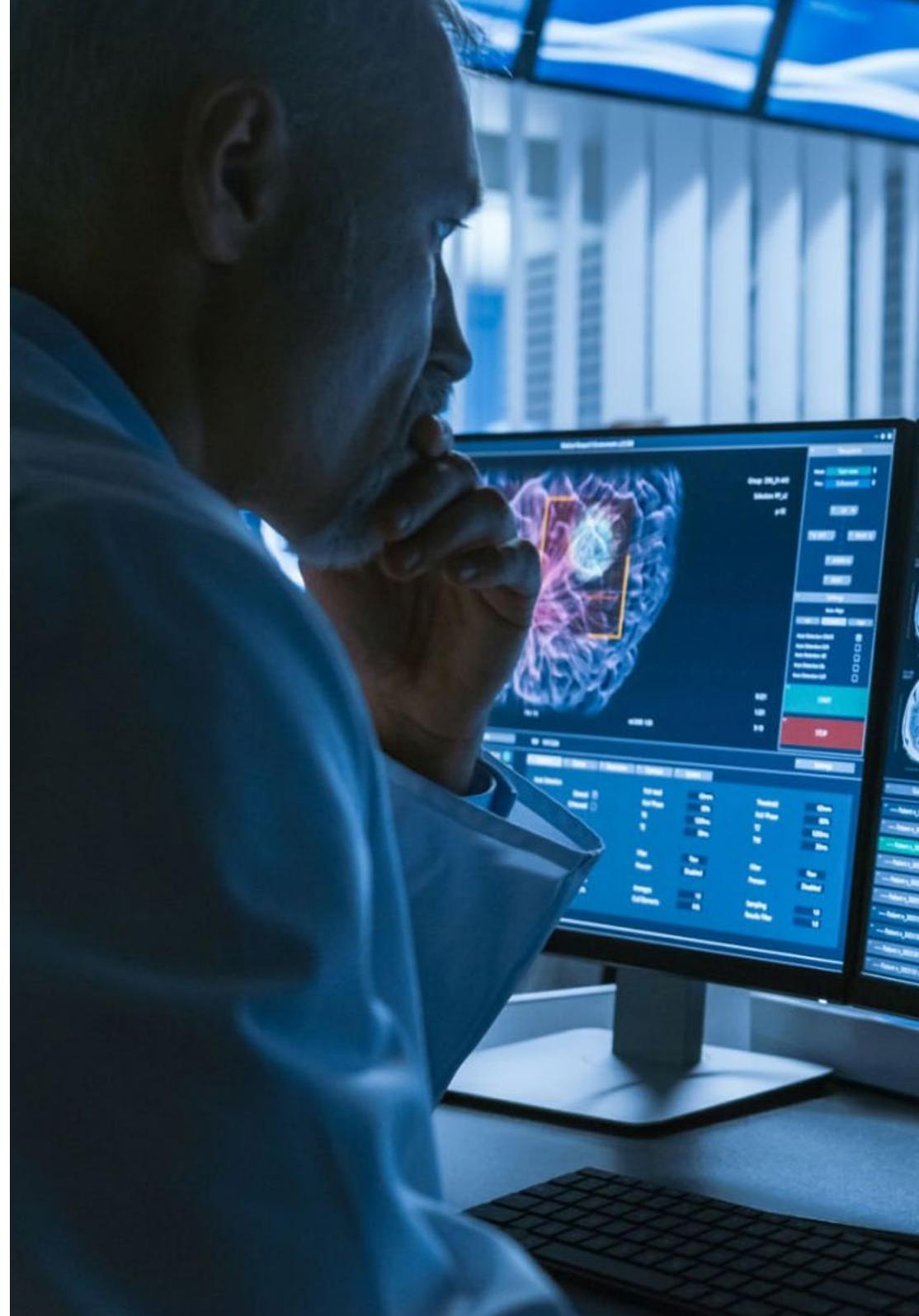
Specific Objectives

- Have a holistic understanding of the regulatory and deontological principles governing the use of Artificial Intelligence in the field of Health, including aspects such as informed consent

- Be able to audit Artificial Intelligence models used in clinical practice, ensuring their transparency and accountability in medical decision making

You will achieve your objectives thanks to TECH's didactic tools, including explanatory videos and interactive summaries"

03
Course Management

In keeping with its philosophy of providing the most comprehensive and up-to-date university programs in the academic panorama, TECH carries out a meticulous process to form its respective teaching staff. As a result of this effort, this Postgraduate Certificate has the participation of recognized experts in Ethical and Legal Aspects of Artificial Intelligence in Diagnostic Imaging. Therefore, they have developed a variety of teaching materials that stand out for their high quality and for adapting to the requirements of the current labor market. In this way, graduates will have access to an experience that will allow them to optimize their clinical practice considerably.

You will be able to consult all your doubts directly with the teaching staff, specialized in Artificial Intelligence, resulting in a personalized tutoring according to your own demands"

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 the 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

Professors

Mr. Popescu Radu, Daniel Vasile
- Independent Specialist in Pharmacology, Nutrition and Dietetics
- Freelance Producer of Teaching and Scientific Content
- Nutritionist and Community Dietitian
- Community Pharmacist
- Researcher
- Master's Degree in Nutrition and Health at the Open University of Catalonia
- Master's Degree in Psychopharmacology from the University of Valencia
- Pharmacist from the Complutense University of Madrid
- Nutritionist-Dietitian by the European University Miguel de Cervantes

A unique, crucial and decisive learning experience to boost your professional development"

04
Structure and Content

This university program is designed by experts in Ethical and Legal Aspects of Artificial Intelligence in Diagnostic Imaging. The study plan will delve into issues such as the management of algorithmic biases or compliance with data protection regulations to informed consent. Along the same lines, the syllabus will provide graduates with the most sophisticated strategies to ensure data confidentiality in Artificial Intelligence projects. In addition, the didactic materials will analyze advanced techniques to improve the explainability of Artificial Intelligence models.

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"
You will implement technologies that ensure the privacy and security of patient data"

Module 1. Ethical and Legal Aspects of Artificial Intelligence in Diagnostic Imaging

1.1. Ethics in the Application of Artificial Intelligence in Diagnostic Imaging with Ethics and Algorithms Toolkit

    1.1.1. Fundamental Ethical Principles in the Use of Artificial Intelligence for Diagnosis

    1.1.2. Algorithmic Bias Management and its Impact on Diagnostic Fairness

    1.1.3. Informed Consent in the Era of Diagnostic Artificial Intelligence

    1.1.4. Ethical Challenges in the International Implementation of Artificial Intelligence Technologies

1.2. Legal and Regulatory Considerations in Artificial Intelligence Applied to Medical Imaging with Compliance.ai

    1.2.1. Current Regulatory Framework for Artificial Intelligence in Diagnostic Imaging

    1.2.2. Compliance with Privacy and Data Protection Regulations

    1.2.3. Validation and Certification Requirements for Artificial Intelligence Algorithms in Healthcare

    1.2.4. Legal Liability in Case of Diagnostic Errors due to Artificial Intelligence

1.3. Informed Consent and Ethical Aspects in the Use of Clinical Data

    1.3.1. Review of Informed Consent Processes Adapted to Artificial Intelligence

    1.3.2. Patient Education on the Use of Artificial Intelligence in their Medical Care

    1.3.3. Transparency in the Use of Clinical Data for Artificial Intelligence Training

    1.3.4. Respect for Patient Autonomy in Decisions Based on Artificial Intelligence

1.4. Artificial Intelligence and Accountability in Clinical Research

    1.4.1. Assignment of Responsibilities in the Use of Artificial Intelligence for Diagnosis

    1.4.2. Implications of Artificial Intelligence Errors in Clinical Practice

    1.4.3. Insurance and Coverage for Risks Associated with the Use of Artificial Intelligence

    1.4.4. Strategies for the Management of Incidents Related to Artificial Intelligence

You will have a library of teaching resources available 24 hours a day and with teaching materials that stand out for their quality. Enroll now!"

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.
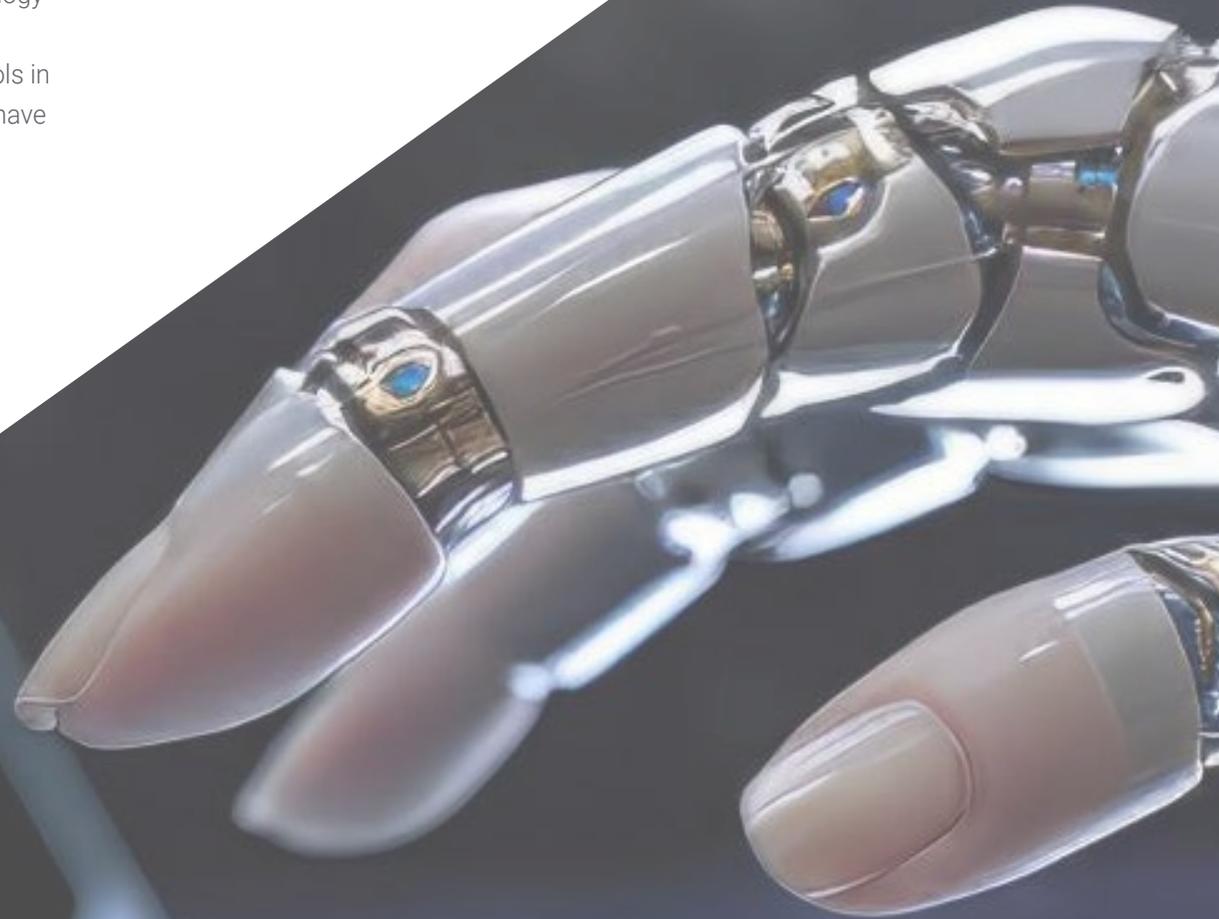
"
Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

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.

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:
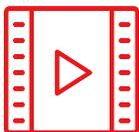
Study Material

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%
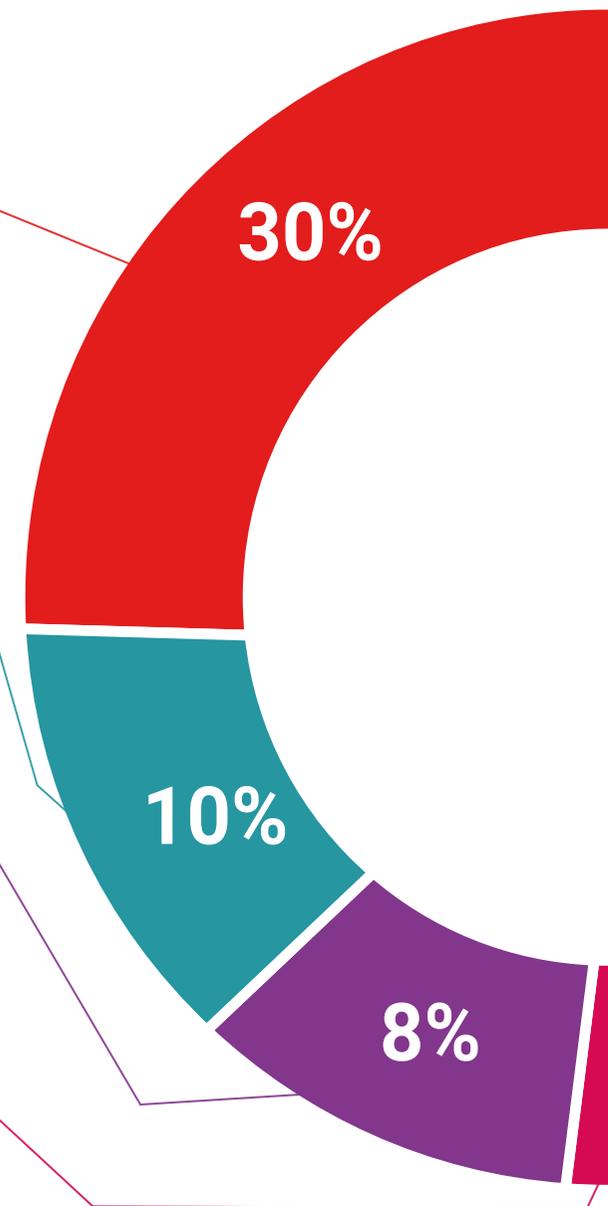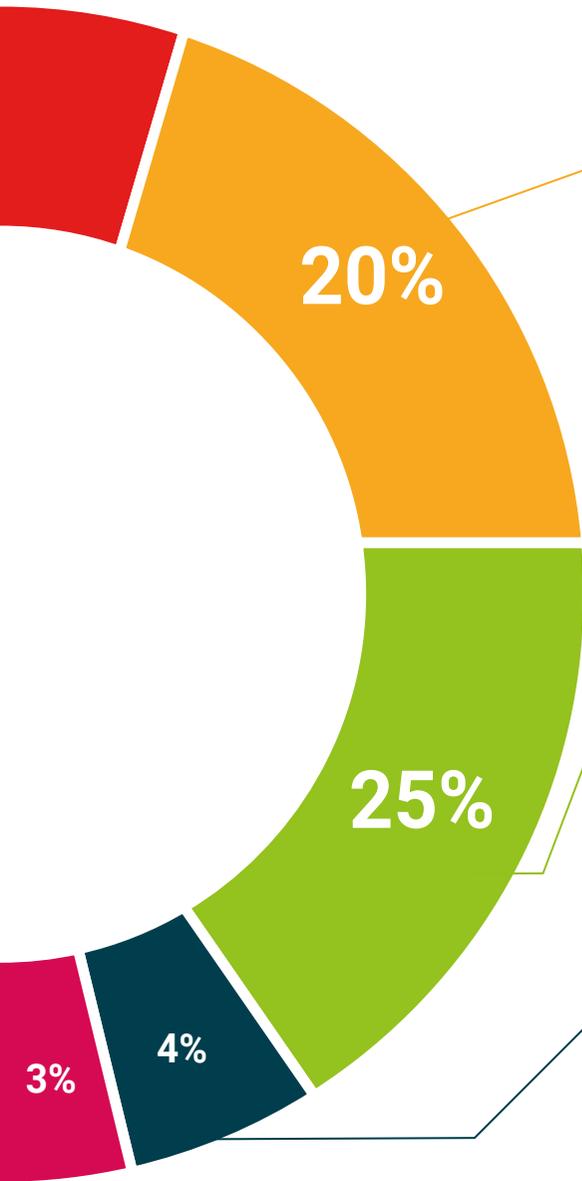
Case Studies

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.

06

Certificate

The Postgraduate Certificate in Ethical and Legal Aspects of Artificial Intelligence in Diagnostic Imaging guarantees, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Global University.

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

This private qualification will allow you to obtain a **Postgraduate Certificate in Ethical and Legal Aspects of Artificial Intelligence in Diagnostic Imaging** 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** private qualification, 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 Ethical and Legal Aspects of Artificial Intelligence in Diagnostic Imaging**

Modality: **online**

Duration: **6 weeks**

Accreditation: **6 ECTS**

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

Postgraduate Certificate in Ethical and Legal Aspects of Artificial Intelligence in Diagnostic Imaging

This is a private qualification 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
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 Global University will make the necessary arrangements to obtain it, at an additional cost.

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