

# Postgraduate Diploma

Data Analysis with Artificial  
Intelligence in Clinical Research



## Postgraduate Diploma Data Analysis with Artificial Intelligence in Clinical Research

- » Modality: online
- » Duration: 6 months
- » Certificate: TECH Global University
- » Credits: 18 ECTS
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-data-analysis-artificial-intelligence-clinical-research](http://www.techtute.com/us/medicine/postgraduate-diploma/postgraduate-diploma-data-analysis-artificial-intelligence-clinical-research)

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# 01

# Introduction

The use of Clinical Data Analysis with Artificial Intelligence (AI) enables a deeper understanding of patterns and correlations in massive medical datasets, streamlining biomarker identification, disease prediction and personalized treatment optimization. In fact, AI can analyze data with unprecedented speed and accuracy, uncovering complex relationships that might go unnoticed in conventional analyses. This not only accelerates the research process, but also improves clinical decision making, facilitating a more accurate approach to individualized medical care. For this reason, TECH has devised a program based on the revolutionary *Relearning* methodology, consisting of the reiteration of key concepts to ensure their full understanding and practical application.





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*Thanks to the use of AI in Data Analysis, you will be able to personalize treatments and develop more effective therapies, thereby contributing to the advancement of medicine”*

The application of Artificial Intelligence (AI) in clinical data analysis has revolutionized the healthcare field. Its ability to process large volumes of data quickly and accurately facilitates the identification of complex patterns and correlations in sets of clinical information. In addition, it enables the integration of heterogeneous data, such as electronic medical records, medical images and genomic data, providing a comprehensive and holistic view of patients' health.

For these reasons, TECH has developed this Postgraduate Diploma in Data Analysis with Artificial Intelligence in Clinical Research, a comprehensive program that will provide the clinician with a detailed view of Artificial Intelligence, focusing on machine learning and its specific implementation in clinical and biomedical Data Analysis. From natural language processing to the use of neural networks in biomedical research, advanced data visualization tools, platforms and techniques will be analyzed.

The graduate will also apply AI in the simulation of biological processes, the generation of synthetic data sets and the scientific and clinical validation of the resulting models. In addition, they will delve into the analysis of molecular interactions, modeling of complex diseases and other crucial issues, such as ethics and regulations associated with the use of synthetic data.

Similarly, this program will focus on the implementation of Big Data and machine learning techniques in clinical research, delving into data mining in clinical registries, as well as the application of AI models in epidemiology and biological network analysis.

Therefore, TECH has implemented a program based on the avant-garde *Relearning* methodology, focused on the repetition of essential concepts to guarantee an optimal understanding of the syllabus. In fact, the 100% online modality will allow students to access the contents through any electronic device with an Internet connection.

This **Postgraduate Diploma in Data Analysis with Artificial Intelligence in Clinical Research** contains the most complete and up-to-date scientific program on the market

Its most notable features are:

- ♦ The development of case studies presented by experts in Data Analysis with AI in Clinical Research
- ♦ The graphic, schematic and practical contents with which it is conceived scientific 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 discover significant trends in the response to various treatments, as well as the prediction of clinical outcomes, all thanks to this 100% online program"*

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*You will delve into drug and treatment simulation as part of AI's contribution to health research”*

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

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the course. For this purpose, the students will be assisted by an innovative interactive video system created by renowned and experienced experts.

*You will face the challenges associated with the management of large datasets, information security and practical applications of Big Data in the biomedical field.*

*You will develop strategies to benefit from AI and optimize clinical research, through the most innovative multimedia resources.*



# 02 Objectives

The main objective of this university program is to provide graduates with a comprehensive and up-to-date knowledge of AI applications in the field of health. As such, it will seek to provide them with the necessary skills to understand, implement and take advantage of data analysis tools and AI techniques specific to the clinical and biomedical field. In addition, the program will focus on qualifying physicians to face complex challenges, such as the analysis of large volumes of clinical data, the identification of relevant patterns in medical care, and the simulation of biological processes.







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*Bet on TECH! You will apply the ethics and effectiveness of AI in the research and development of innovative medical treatments”*



## General Objectives

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- ♦ Obtain a comprehensive view of the transformation of Clinical Research through Artificial Intelligence, from its historical foundations to current applications
- ♦ Acquire practical skills in the use of artificial intelligence tools, platforms, and techniques, addressing everything from data analysis to the application of neural networks and predictive modeling
- ♦ Learn effective methods for integrating heterogeneous data into clinical research, including natural language processing and advanced data visualization
- ♦ Apply computational models to simulate biological processes and treatment responses, using artificial intelligence to improve understanding of complex biomedical phenomena
- ♦ Gain a solid understanding of model validation and simulations in the biomedical domain, exploring the use of synthetic datasets and practical applications of AI in health research
- ♦ Acquire a solid understanding of Big Data concepts in the clinical setting and become familiar with essential tools for its analysis





## Specific Objectives

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### Module 1. AI Methods and Tools for Clinical Research

- ♦ Gain a comprehensive view of how AI is transforming Clinical Research, from its historical foundations to current applications
- ♦ Implement advanced statistical methods and algorithms in clinical studies to optimize data analysis
- ♦ Design experiments with innovative approaches and perform comprehensive analysis of results in Clinical Research
- ♦ Apply natural language processing to improve scientific and clinical documentation in the Research context
- ♦ Effectively integrate heterogeneous data using state-of-the-art techniques to enhance interdisciplinary clinical research

### Module 2. Biomedical Research with AI

- ♦ Acquire solid knowledge on the validation of models and simulations in the biomedical field, ensuring their accuracy and clinical relevance
- ♦ Integrate heterogeneous data using advanced methods to enrich the multidisciplinary analysis in Clinical Research
- ♦ Develop deep learning algorithms to improve the interpretation and analysis of biomedical data in clinical trials
- ♦ Explore the use of synthetic datasets in clinical studies and understand the practical applications of AI in health research
- ♦ Understand the crucial role of computational simulation in drug discovery, analysis of molecular interactions, and modeling of complex diseases

### Module 3. Big Data Analytics and Machine Learning in Clinical Research

- ♦ Gain a solid understanding of the fundamental concepts of Big Data in the clinical setting and become familiar with the essential tools used for its analysis
- ♦ Explore advanced data mining techniques, machine learning algorithms, predictive analytics, and AI applications in epidemiology and public health
- ♦ Analyze biological networks and disease patterns to identify connection and potential treatments
- ♦ Address data security and manage challenges associated with large volumes of data in biomedical research
- ♦ Investigate case studies that demonstrate the potential of Big Data in biomedical research



*You will reach your objectives thanks to innovative teaching contents, at the forefront of education and technology. Enroll now!"*

# 03

## Course Management

TECH has carefully selected the teaching team that makes up this Postgraduate Diploma. Provided with a deep background in Artificial Intelligence, medicine and biomedical sciences, these experts not only transmit cutting-edge theoretical knowledge, but also provide a practical perspective that will equip graduates with the tools and the necessary drive to lead the revolution in clinical research through the transformative power of AI. In addition, its unwavering commitment to progress and academic excellence will ensure an educational experience that will awaken students' capacity for innovation.



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*Succeed with the best and acquire the knowledge and skills you need to embark in the field of Data Analysis with Artificial Intelligence in Clinical Research"*

## Management



### Dr. Peralta Martín-Palomino, Arturo

- ♦ CEO and CTO at Prometheus Global Solutions
- ♦ CTO at Korporate Technologies
- ♦ CTO at AI Shephers GmbH
- ♦ Consultant and Strategic Business Advisor at Alliance Medical
- ♦ Director of Design and Development at DocPath
- ♦ Ph.D. in Psychology from the University of Castilla La Mancha
- ♦ Ph.D. in Economics, Business and Finance from the Camilo José Cela University
- ♦ 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. Popescu Radu, Daniel Vasile

- ♦ Pharmacology, Nutrition and Diet Specialist
- ♦ 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

## Professors

### Dr. Carrasco González, Ramón Alberto

- ♦ Specialist in Computer Science and Artificial Intelligence
- ♦ Researcher
- ♦ Head of Business Intelligence (Marketing) at the Caja General de Ahorros de Granada and Banco Mare Nostrum
- ♦ Head of Information Systems (Data Warehousing and Business Intelligence) at Caja General de Ahorros de Granada and Banco Mare Nostrum.
- ♦ Doctor in Artificial Intelligence by the University of Granada
- ♦ Higher Engineering Degree in Computer Science from the University of Granada

# 04

## Structure and Content

This educational program has a dynamic structure and a content strategically designed to immerse the professional in the essential fundamentals and the most advanced applications of Artificial Intelligence (AI) in Clinical Research. In this way, the graduate will analyze the principles of machine learning, biomedical data interpretation, and natural language processing, as well as the ethical and regulatory complexities surrounding this revolutionary discipline. In addition, you'll delve into the simulation of biological processes, synthetic data generation and model validation, all from leading experts in the field.







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*You'll equip yourself with the skills needed to lead the transformation of Clinical Research through the innovative power of AI"*

## Module 1. AI Methods and Tools for Clinical Research

- 1.1. AI Technologies and Tools in Clinical Research
  - 1.1.1. Using Machine Learning to Identify Patterns in Clinical Data
  - 1.1.2. Development of Predictive Algorithms for Clinical Trials
  - 1.1.3. Implementation of AI Systems to Improve Patient Recruitment
  - 1.1.4. AI Tools for Real-Time Analysis of Research Data
- 1.2. Statistical Methods and Algorithms in Clinical Trials
  - 1.2.1. Application of Advanced Statistical Techniques for Clinical Data Analysis
  - 1.2.2. Use of Algorithms for the Validation and Verification of Trial Results
  - 1.2.3. Implementation of Regression and Classification Models in Clinical Studies
  - 1.2.4. Analysis of Large Data Sets using Computational Statistical Methods
- 1.3. Design of Experiments and Analysis of Results
  - 1.3.1. Strategies for the Efficient Design of Clinical Trials Using AI
  - 1.3.2. AI Techniques for Analysis and Interpretation of Experimental Data
  - 1.3.3. Optimization of Research Protocols Using AI Simulations
  - 1.3.4. Evaluation of Efficacy and Safety of Treatments Using AI Models
- 1.4. Interpretation of Medical Images Using AI in Research
  - 1.4.1. Development of AI Systems for the Automatic Detection of Pathologies in Images
  - 1.4.2. Use of Deep Learning for Classification and Segmentation in Medical Images
  - 1.4.3. AI Tools to Improve Accuracy in Image Diagnostics
  - 1.4.4. Analysis of Radiological and Magnetic Resonance Imaging Using AI
- 1.5. Clinical Analysis and Biomedical Data Analysis
  - 1.5.1. AI in Genomic and Proteomic Data Processing and Analysis
  - 1.5.2. Tools for the Integrated Analysis of Clinical and Biomedical Data
  - 1.5.3. Use of AI to Identify Biomarkers in Clinical Research
  - 1.5.4. Predictive Analysis of Clinical Outcomes Based on Biomedical Data
- 1.6. Advanced Data Visualization in Clinical Research
  - 1.6.1. Development of Interactive Visualization Tools for Clinical Data
  - 1.6.2. Use of AI in the Creation of Graphical Representations of Complex Data
  - 1.6.3. Visualization Techniques for Easy Interpretation of Research Results
  - 1.6.4. Augmented and Virtual Reality Tools for Visualization of Biomedical Data
- 1.7. Natural Language Processing in Scientific and Clinical Documentation
  - 1.7.1. Application of NLP for the Analysis of Scientific Literature and Clinical Records
  - 1.7.2. AI Tools for the Extraction of Relevant Information from Medical Texts
  - 1.7.3. AI Systems for Summarizing and Categorizing Scientific Publications
  - 1.7.4. Use of NLP to Identify Trends and Patterns in Clinical Documentation
- 1.8. Heterogeneous Data Processing in Clinical Research
  - 1.8.1. AI Techniques for Integrating and Analyzing Data from Diverse Clinical Sources
  - 1.8.2. Tools for the Management of Unstructured Clinical Data
  - 1.8.3. AI Systems for Correlating Clinical and Demographic Data
  - 1.8.4. Analysis of Multidimensional Data for Clinical Insights
- 1.9. Applications of Neural Networks in Biomedical Research
  - 1.9.1. Use of Neural Networks for Disease Modeling and Treatment Prediction
  - 1.9.2. Implementation of Neural Networks in Genetic Disease Classification
  - 1.9.3. Development of Diagnostic Systems Based on Neural Networks
  - 1.9.4. Application of Neural Networks in the Personalization of Medical Treatments
- 1.10. Predictive Modeling and its Impact on Clinical Research
  - 1.10.1. Development of Predictive Models for the Anticipation of Clinical Outcomes
  - 1.10.2. Use of AI in the Prediction of Side Effects and Adverse Reactions
  - 1.10.3. Implementation of Predictive Models in the Optimization of Clinical Trials
  - 1.10.4. Risk Analysis in Medical Treatments Using Predictive Modeling



## Module 2. Biomedical Research with AI

- 2.1. Design and Implementation of Observational Studies with AI
  - 2.1.1. Implementation of AI for the Selection and Segmentation of Populations in Studies
  - 2.1.2. Use of Algorithms for Real-Time Monitoring of Observational Study Data
  - 2.1.3. AI Tools for the Identification of Patterns and Correlations in Observational Studies
  - 2.1.4. Automation of the Data Collection and Analysis Process in Observational Studies
- 2.2. Validation and Calibration of Models in Clinical Research
  - 2.2.1. AI Techniques to Ensure the Accuracy and Reliability of Clinical Models
  - 2.2.2. Use of AI in the Calibration of Predictive Models in Clinical Research
  - 2.2.3. Cross-Validation Methods Applied to Clinical Models Using AI
  - 2.2.4. AI Tools for the Evaluation of Generalization of Clinical Models
- 2.3. Methods for Integration of Heterogeneous Data in Clinical Research
  - 2.3.1. AI Techniques for Combining Clinical, Genomic and Environmental Data
  - 2.3.2. Use of Algorithms to Manage and Analyze Unstructured Clinical Data
  - 2.3.3. AI Tools for Normalization and Standardization of Clinical Data
  - 2.3.4. AI Systems for Correlation of Different Types of Data in Research
- 2.4. Multidisciplinary Biomedical Data Integration
  - 2.4.1. AI Systems to Combine Data from Different Biomedical Disciplines
  - 2.4.2. Algorithms for Integrated Analysis of Laboratory and Clinical Data
  - 2.4.3. AI Tools for Visualization of Complex Biomedical Data
  - 2.4.4. Use of AI in the Creation of Holistic Health Models from Multidisciplinary Data
- 2.5. Deep Learning Algorithms in Biomedical Data Analysis
  - 2.5.1. Implementation of Neural Networks in the Analysis of Genetic and Proteomic Data
  - 2.5.2. Use of Deep Learning for Pattern Identification in Biomedical Data
  - 2.5.3. Development of Predictive Models in Precision Medicine with Deep Learning
  - 2.5.4. Application of AI in the Advanced Analysis of Biomedical Images
- 2.6. Optimization of Research Processes with Automation
  - 2.6.1. Automation of Laboratory Routines Using AI Systems
  - 2.6.2. Use of AI for Efficient Management of Resources and Time in Research
  - 2.6.3. AI Tools for Optimization of Workflows in Clinical Research
  - 2.6.4. Automated Systems for Tracking and Reporting Progress in Research

- 2.7. Simulation and Computational Modeling in Medicine with AI
  - 2.7.1. Development of Computational Models to Simulate Clinical Scenarios
  - 2.7.2. Use of AI for the Simulation of Molecular and Cellular Interactions
  - 2.7.3. AI Tools in the Creation of Predictive Models of Disease
  - 2.7.4. Application of AI in the Simulation of Drug and Treatment Effects
- 2.8. Use of Virtual and Augmented Reality in Clinical Studies
  - 2.8.1. Implementation of Virtual Reality for Training and Simulation in Medicine
  - 2.8.2. Use of Augmented Reality in Surgical and Diagnostic Procedures
  - 2.8.3. Virtual Reality Tools for Behavioral and Psychological Studies
  - 2.8.4. Application of Immersive Technologies in Rehabilitation and Therapy
- 2.9. Data Mining Tools Applied to Biomedical Research
  - 2.9.1. Use of Data Mining Techniques to Extract Knowledge from Biomedical Databases
  - 2.9.2. Implementation of AI Algorithms to Discover Patterns in Clinical Data
  - 2.9.3. AI Tools for Trend Identification in Large Data Sets
  - 2.9.4. Application of Data Mining in the Generation of Research Hypotheses
- 2.10. Development and Validation of Biomarkers with Artificial Intelligence
  - 2.10.1. Use of AI for the Identification and Characterization of Novel Biomarkers
  - 2.10.2. Implementation of AI Models for the Validation of Biomarkers in Clinical Studies
  - 2.10.3. AI Tools in the Correlation of Biomarkers with Clinical Outcomes
  - 2.10.4. Application of AI in Biomarker Analysis for Personalized Medicine



### Module 3. Big Data Analysis and Machine Learning in Clinical Research

- 3.1. Big Data in Clinical Research: Concepts and Tools
  - 3.1.1. The Explosion of Data in the Field of Clinical Research
  - 3.1.2. Concept of Big Data and Main Tools
  - 3.1.3. Applications of Big Data in Clinical Research
- 3.2. Data Mining in Clinical and Biomedical Registries
  - 3.2.1. Main Methodologies for Data Mining
  - 3.2.2. Data Integration of Clinical and Biomedical Registry Data
  - 3.2.3. Detection of Patterns and Anomalies in Clinical and Biomedical Records
- 3.3. Machine Learning Algorithms in Biomedical Research
  - 3.3.1. Classification Techniques in Biomedical Research
  - 3.3.2. Regression Techniques in Biomedical Research
  - 3.3.3. Unsupervised Techniques in Biomedical Research
- 3.4. Predictive Analytical Techniques in Clinical Research
  - 3.4.1. Classification Techniques in Clinical Research
  - 3.4.2. Regression Techniques in Clinical Research
  - 3.4.3. Deep Learning in Clinical Research
- 3.5. AI Models in Epidemiology and Public Health
  - 3.5.1. Classification Techniques for Epidemiology and Public Health
  - 3.5.2. Regression Techniques for Epidemiology and Public Health
  - 3.5.3. Unsupervised Techniques for Epidemiology and Public Health
- 3.6. Analysis of Biological Networks and Disease Patterns
  - 3.6.1. Exploration of Interactions in Biological Networks for the Identification of Disease Patterns
  - 3.6.2. Integration of Omics Data in Network Analysis to Characterize Biological Complexities
  - 3.6.3. Application of Machine Learning Algorithms for the Discovery of Disease Patterns
- 3.7. Development of Tools for Clinical Prognosis
  - 3.7.1. Creation of Innovative Clinical Prognostic Tools based on Multidimensional Data
  - 3.7.2. Integration of Clinical and Molecular Variables in the Development of Prognostic Tools
  - 3.7.3. Evaluating the Effectiveness of Prognostic Tools in Diverse Clinical Contexts
- 3.8. Advanced Visualization and Communication of Complex Data
  - 3.8.1. Use of Advanced Visualization Techniques to Represent Complex Biomedical Data
  - 3.8.2. Development of Effective Communication Strategies to Present Results of Complex Analyses
  - 3.8.3. Implementation of Interactivity Tools in Visualizations to Enhance Understanding
- 3.9. Data Security and Challenges in Big Data Management
  - 3.9.1. Addressing Data Security Challenges in the Context of Biomedical Big Data
  - 3.9.2. Strategies for Privacy Protection in the Management of Large Biomedical Datasets
  - 3.9.3. Implementation of Security Measures to Mitigate Risks in the Handling of Sensitive Data
- 3.10. Practical Applications and Case Studies on Biomedical Big Data
  - 3.10.1. Exploration of Successful Cases in the Implementation of Biomedical Big Data in Clinical Research
  - 3.10.2. Development of Practical Strategies for the Application of Big Data in Clinical Decision-Making
  - 3.10.3. Evaluation of Impact and Lessons Learned through Case Studies in the Biomedical Field

05

# Methodology

This 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.



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

## At TECH, we use the Case Method

What should a professional do in a given situation? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH you will experience a way of learning that is shaking the foundations of traditional universities around the world.*



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a “case”, an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions in the physician’s professional practice.



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

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

1. Students who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity, through exercises that assess real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the student to better integrate into the real world.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

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.

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



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

With this methodology, more than 250,000 physicians have been prepared with unprecedented success in all clinical specialties regardless of surgical load. Our educational methodology is developed in a highly competitive environment, with a university student body with a strong socioeconomic profile and an average age of 43.5 years old.

*Relearning will allow you to learn with less effort and better performance, involving you more in your specialization, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation to success.*

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

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



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



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then adapted in 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.



#### Surgical Techniques and Procedures on Video

TECH introduces students to the latest techniques, the latest educational advances and to the forefront of current medical techniques. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### 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".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Expert-Led Case Studies and Case Analysis

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



#### Testing & Retesting

We periodically assess and re-assess students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence on the usefulness of learning by observing experts. The system known as Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

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



06

# Certificate

The Postgraduate Diploma in Data Analysis with Artificial Intelligence in Clinical Research guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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 program will allow you to obtain your **Postgraduate Diploma in Data Analysis with Artificial Intelligence in Clinical Research** 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.

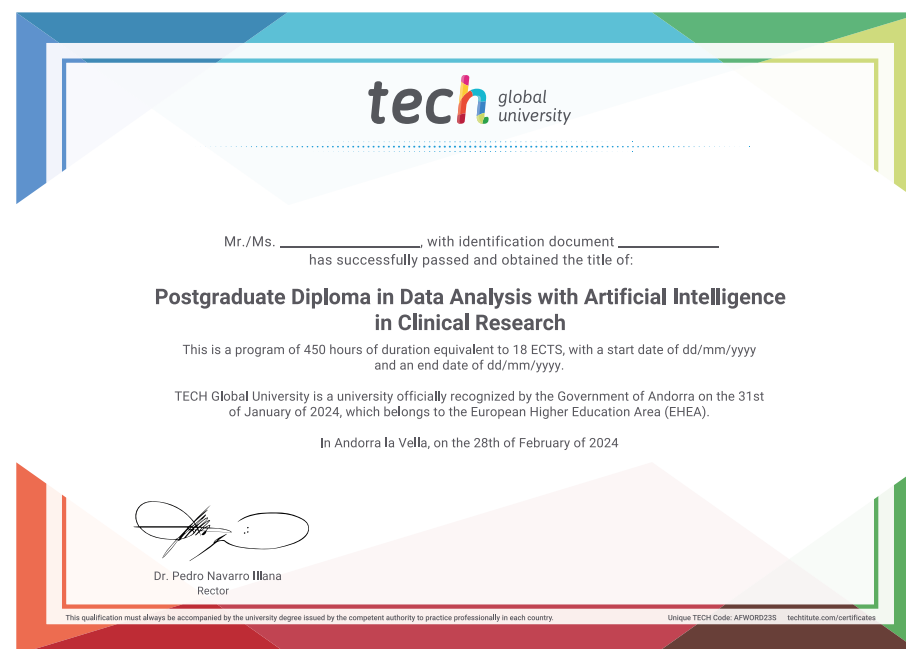
This **TECH Global University** title is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Diploma in Data Analysis with Artificial Intelligence in Clinical Research**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**



\*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.



future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development language  
virtual classroom



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