Postgraduate Certificate
Fundamental Analysis of Financial Markets with Artificial Intelligence

tech global university

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Fundamental Analysis of Financial Markets with Artificial Intelligence

- » 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/fundamental-analysis-financial-markets-artificial-intelligence**

Index

01

Introduction

Fundamental analysis of financial markets, which has been based on the evaluation of economic, financial and corporate health indicators, has taken a major turn with the incorporation of Artificial Intelligence. In fact, these tools are revolutionizing the way analysts interpret large volumes of financial data, enabling faster and more accurate analysis of factors such as financial statements, macroeconomic trends and relevant news. In addition, advanced Machine Learning algorithms can identify hidden patterns and predict market movements with greater accuracy. In this context, TECH has developed a fully online program that will adjust to graduates' work and personal schedules, implementing the innovative learning methodology known as Relearning.

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With this 100% online Postgraduate Certificate, you will combine traditional financial knowledge with the most advanced technological tools, such as Machine Learning and Natural Language Processing (NLP)"

Fundamental analysis of financial markets is undergoing a significant transformation thanks to Artificial Intelligence. In fact, the use of AI models has enabled analysts to sift through huge volumes of data, including unstructured information such as social networks and sentiment analysis, to gain deeper insights into market behavior.

This is how this Postgraduate Certificate was created, in which professionals will be able to apply predictive algorithms to analyze historical data, identify patterns and generate models that help improve data-driven investment decision making. This will allow a deeper understanding of market behavior and the financial performance of companies, facilitating asset selection and the creation of more robust and risk-adjusted portfolios.

In addition, tools such as ChatGPT will be used to interpret financial reports, extract relevant information and improve the assessment of the financial health of companies. With the processing of large volumes of unstructured data, such as those contained in management reports or audit analysis, key performance indicators will be identified and possible changes in the financial trends of organizations will be anticipated.

Finally, through specific algorithms, experts will acquire skills to identify patterns of anomalous behavior that may indicate fraudulent activities. In addition, they will evaluate the risks associated with different investments, increasing security and accuracy in decision making.
These capabilities will be essential to ensure transparency and confidence in the financial markets.

In this way, TECH has created a comprehensive and completely online program, which will only require an electronic device with an Internet connection to access the educational resources. This will avoid inconveniences such as moving to a physical space or complying with a fixed schedule. Additionally, it will be based on the revolutionary Relearning methodology, focused on the repetition of essential concepts to ensure an optimal assimilation of the contents.

The **Postgraduate Certificate in Fundamental Analysis of Financial Markets with Artificial Intelligence** 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 Artificial Intelligence applied to Stock Exchanges and Financial Markets

- The graphic, schematic, and practical contents with which they are created, provide practical information on the disciplines that are essential for professional practice

- Practical exercises where the self-assessment process can be carried out to improve learning

- Its special emphasis on innovative methodologies

- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments

- The availability of access to the contents from any fixed or portable device with an Internet connection

You will develop skills to predict the financial performance of organizations, improve risk assessment and detect fraud, through the best didactic materials, at the forefront of technology and education"

You will delve into methodologies to identify anomalies and suspicious patterns in financial transactions, ensuring greater security and accuracy in decision making. What are you waiting for to enroll?"

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

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

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

You will focus on the application of advanced Machine Learning and Deep Learning techniques to model and predict the financial performance of companies, thanks to an extensive library of innovative multimedia resources.

You will improve the assessment of the financial health of companies, quickly identifying key indicators that can affect business performance. With all TECH's quality guarantees!

02
Objectives

The main objective of the program will be to prepare professionals capable of applying advanced Machine Learning and Deep Learning techniques to analyze, predict and optimize the financial performance of companies. Therefore, they will acquire the necessary skills to use technological tools that facilitate investment decision making, based on accurate data and analysis. They will also develop skills in the use of Natural Language Processing (NLP) to extract relevant information from financial documents, detecting fraud and assessing financial risks more effectively.

"

You will master the fundamental analysis of financial markets with the support of Artificial Intelligence, improving your ability to face the challenges of the contemporary financial market"

General Objectives

- Acquire skills in processing and analyzing large volumes of financial data using Big Data technologies, such as Hadoop and Spark

- Foster the ability to create and apply Artificial Intelligence models that are explainable and transparent, ensuring that AI-based financial decisions are understandable and justifiable

- Develop a thorough understanding of the ethical and regulatory challenges associated with the use of Artificial Intelligence in finance

- Apply AI technologies in finance in an ethical and responsible manner, incorporating fairness, transparency and privacy considerations into their solutions

Specific Objectives

- Learn to model and predict the financial performance of companies using Machine Learning and Deep Learning techniques, facilitating data-driven investment decisions

- Apply Natural Language Processing (NLP) techniques, such as ChatGPT, to analyze and extract relevant information from financial statements, improving the assessment of the financial health of companies

- Develop skills in financial fraud detection and risk assessment through the use of Machine Learning, ensuring greater security and accuracy in financial decisions

Take advantage of this unique opportunity that only TECH offers you! You'll be empowered to make more informed and confident investment decisions, leveraging real-time big data analytics"

03

Course Management

The teachers are experts with extensive experience, both in the financial field and in the use of advanced technologies, such as Machine Learning and Deep Learning. In fact, these professionals will combine their knowledge in financial markets with a deep mastery of Artificial Intelligence, which will allow them to offer a comprehensive and updated knowledge. At the same time, they have backgrounds in leading companies in the financial sector, as well as in recognized academic institutions, which will enrich the learning process with practical cases and real examples.

The pedagogical approach of the teachers will be oriented to foster critical thinking and the application of technological tools in the solution of financial problems"

Management

Dr. Peralta Martín-Palomino, Arturo

- CEO and CTO at Prometeus Global Solutions
- CTO at Korporate Technologies
- CTO at AI Shepherds 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
- Master's Degree in Executive MBA from the Isabel I University
- 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. Sánchez Mansilla, Rodrigo

- Digital Advisor at AI Shepherds GmbH
- Digital Account Manager at Kill Draper
- Head of Digital at Kuarere
- Digital Marketing Manager at Arconi Solutions, Deltoid Energy and Brinergy Tech
- Founder and National Sales and Marketing Manager
- Master's Degree in Digital Marketing (MDM) by The Power Business School
- Bachelor's Degree in Business Administration (BBA) from the University of Buenos Aires

Take the opportunity to learn about the latest advances in this field in order to apply it to your daily practice"

04
Structure and Content

The contents will range from the basic concepts of fundamental analysis, such as the interpretation of financial statements and company valuation, to the application of advanced Machine Learning and Deep Learning techniques to predict financial performance. Therefore, algorithms will be used to model historical data, applying Natural Language Processing (NLP) techniques to extract key information from financial reports and detecting fraud or potential risks in transactions through automated systems. In addition, it will include the implementation of case studies and projects that integrate these technologies, facilitating a deep and applied understanding.

The contents of this Postgraduate Certificate have been designed to provide you with a complete training in the intersection between finance and Artificial Intelligence"

Module 1. Fundamental Analysis of Financial Markets with AI

1.1. Predictive Financial Performance Modeling with Scikit-Learn

   1.1.1. Linear and Logistic Regression for Financial Forecasting with Scikit-Learn

   1.1.2. Using Neural Networks with TensorFlow to Forecast Revenues and Earnings

   1.1.3. Validating Predictive Models with Cross-Validation Using Scikit-Learn

1.2. Valuation of Companies with Deep Learning

   1.2.1. Automating the Discounted Cash Flows (DCF) Model with TensorFlow

   1.2.2. Advanced Valuation Models Using PyTorch

   1.2.3. Integration and Analysis of Multiple Valuation Models with Pandas

1.3. Analysis of Financial Statements with NLP Using ChatGPT

   1.3.1. Extracting Key Information from Annual Reports with ChatGPT

   1.3.2. Sentiment Analysis of Analyst Reports and Financial News with ChatGPT

   1.3.3. Implementing NLP Models with Chat GPT for Interpreting Financial Texts

1.4. Risk and Credit Analysis with Machine Learning

   1.4.1. Credit Scoring Models Using SVM and Decision Trees in Scikit-Learn

   1.4.2. Credit Risk Analysis in Corporations and Bonds with TensorFlow

   1.4.3. Visualization of Risk Data with Tableau

1.5. Credit Analysis with Scikit-Learn

   1.5.1. Implementing Credit Scoring Models

   1.5.2. Credit Risk Analysis with RandomForest in Scikit-Learn

   1.5.3. Advanced Visualization of Credit Scoring Results with Tableau

1.6. ESG Sustainability Assessment with Data Mining Techniques

   1.6.1. ESG Data Mining Methods

   1.6.2. ESG Impact Modeling with Regression Techniques

   1.6.3. Applications of ESG Analysis in Investment Decisions

1.7. Sector Benchmarking with Artificial Intelligence Using TensorFlow and Power BI

   1.7.1. Comparative Analysis of Companies Using AI

   1.7.2. Predictive Modeling of Sector Performance with TensorFlow

   1.7.3. Implementing Industry Dashboards with Power BI

You will gain a competitive advantage in an increasingly technology and automation-driven financial environment by meeting complex challenges and improving your performance in the global financial sector"

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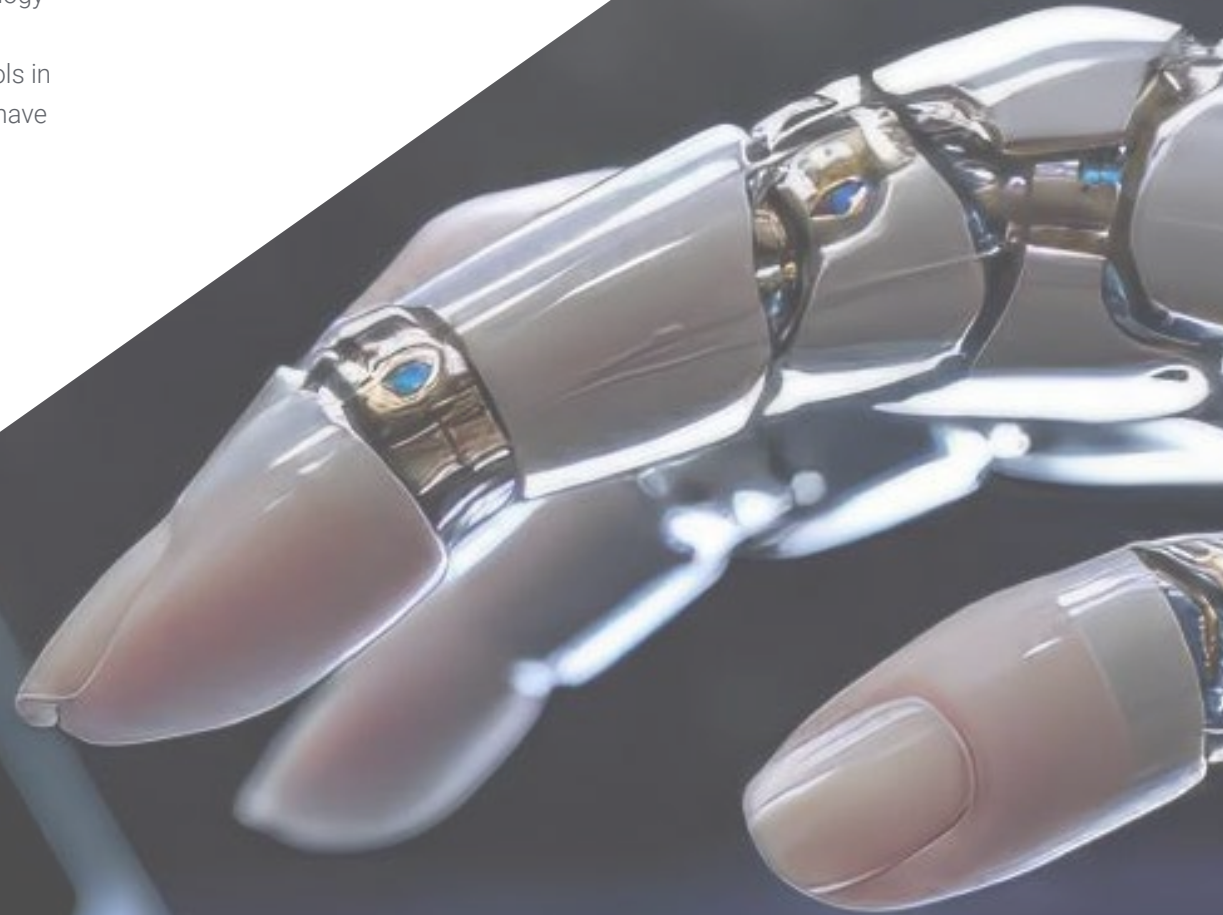
Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"

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.

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.

The student will learn to solve complex situations in real business environments through collaborative activities and real cases.

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.

30%

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.

10%

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.

8%

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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20%

25%

4%

3%
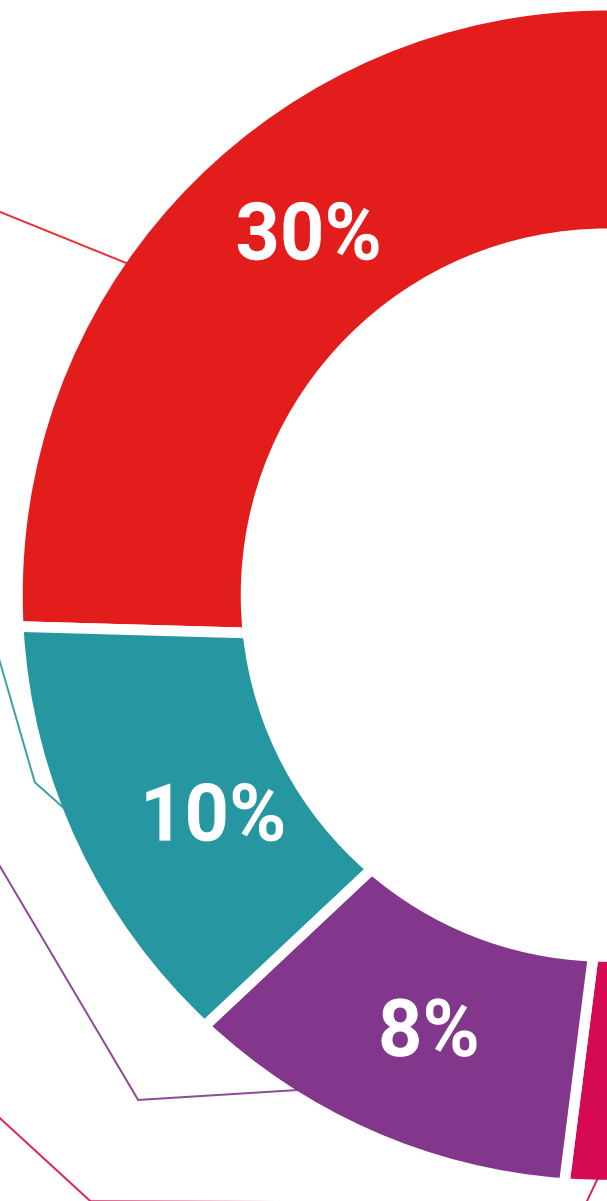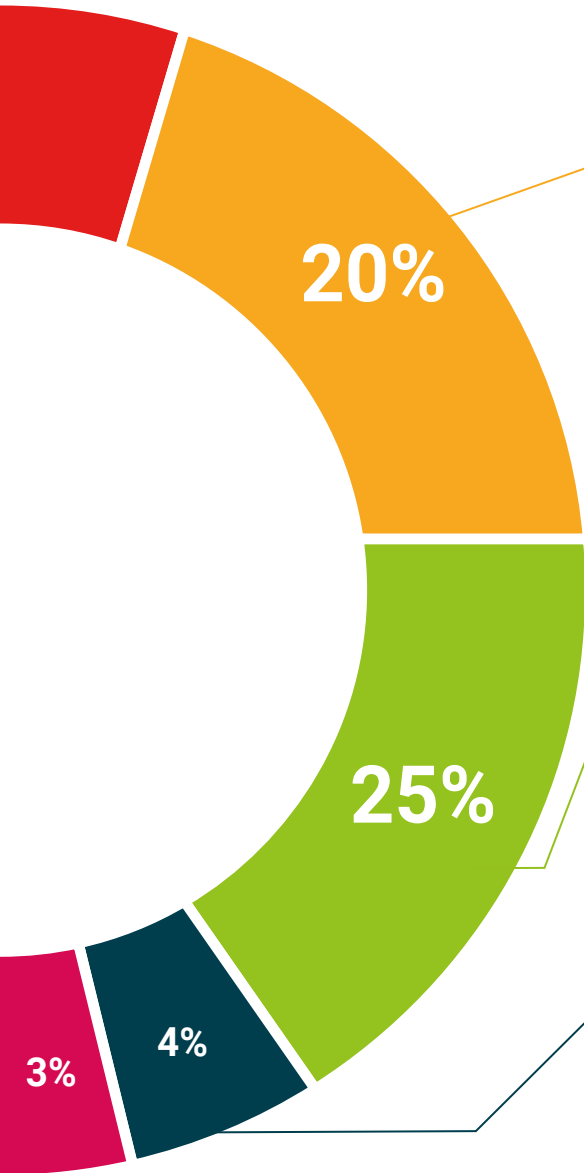
Case Studies

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 Fundamental Analysis of Financial Markets with 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 private qualification will allow you to obtain a **Postgraduate Certificate in Fundamental Analysis of Financial Markets with 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.
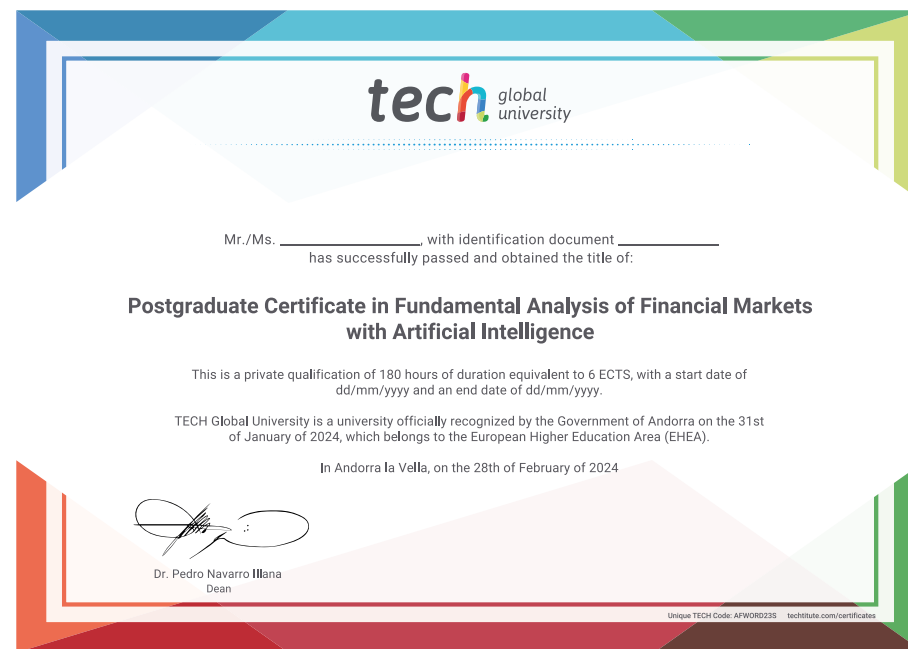
This **TECH Global University** private qualification, is a European program of continuing education and professional updating that guarantees the acquisition of competencies in its area of knowledge, providing a high curricular value to the student who completes the program.

Title: **Postgraduate Certificate in Fundamental Analysis of Financial Markets with Artificial Intelligence**

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 Fundamental Analysis of Financial Markets with Artificial Intelligence

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

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*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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