Postgraduate Diploma

Advanced Financial Management with Artificial Intelligence

tech global university

tech global university

Postgraduate Diploma
Advanced Financial Management with Artificial Intelligence

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

Website: **www.techtitute.com/us/artificial-intelligence/postgraduate-diploma/postgraduate-diploma-advanced-financial-management-artificial-intelligence**

Index

01

Introduction

Financial Management is in a stage of accelerated evolution, driven by advances in Artificial Intelligence and Big Data tools. These tools have enabled financial institutions to analyze vast volumes of data with unprecedented speed and accuracy, facilitating more informed and strategic decision-making. As a result, professionals need to handle technologies such as Machine Learning or Deep Learning models to optimize portfolios and assess investment risks. In order to facilitate this task, TECH has created a pioneering university program focused on Advanced Financial Management with Artificial Intelligence. In addition, it is taught in a convenient 100% online mode that adapts to the schedule of busy professionals.

Thanks to this 100% online Postgraduate Diploma, you will create new technological solutions based on Artificial Intelligence that boost efficiency and competitiveness in the financial sector"

According to a new report from the Organization for Economic Cooperation and Development, Artificial Intelligence technologies are redefining financial practices by providing more accurate predictive analytics and automating complex operational tasks. This technological advance not only increases operational efficiency, but also opens up new opportunities for innovation in financial services. In this context, advanced Machine Learning techniques and Big Data analytics are facilitating a better understanding of market and customer behaviors, which translates into more informed financial strategies.

Against this backdrop, TECH launches a cutting-edge Postgraduate Diploma in Advanced Financial Management with Artificial Intelligence. Designed by references in this field, the academic itinerary will delve into aspects ranging from robotic automation of financial processes or predictive modeling of cash flows using TensorFlow to the creation of automated financial reports with Power BI. In addition, the syllabus will address the most advanced techniques of financial optimization with OR-Tools, which will allow graduates to significantly improve the accuracy in the management of their portfolios and asset allocation.

To consolidate all these contents, TECH is based on the exclusive Relearning methodology. Through this learning system, specialists will reinforce understanding by repeating key concepts throughout the program, which will be presented in various audiovisual media for a progressive and effective acquisition of knowledge. In this sense, the only thing doctors will need is to have a device with Internet access to enter the Virtual Campus and enjoy the most complete didactic materials in the educational market.

This **Postgraduate Diploma in Advanced Financial Management with Artificial Intelligence** 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 practical contents with which they are created, provide 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 assignments
- Content that is accessible from any fixed or portable device with an Internet connection

Give your career and resume a quality boost by incorporating the latest trends in Advanced Financial Management with Artificial Intelligence into your work”

You will delve into the most advanced financial optimization techniques with OR-Tools, allowing you to maximize the performance of investment portfolios"

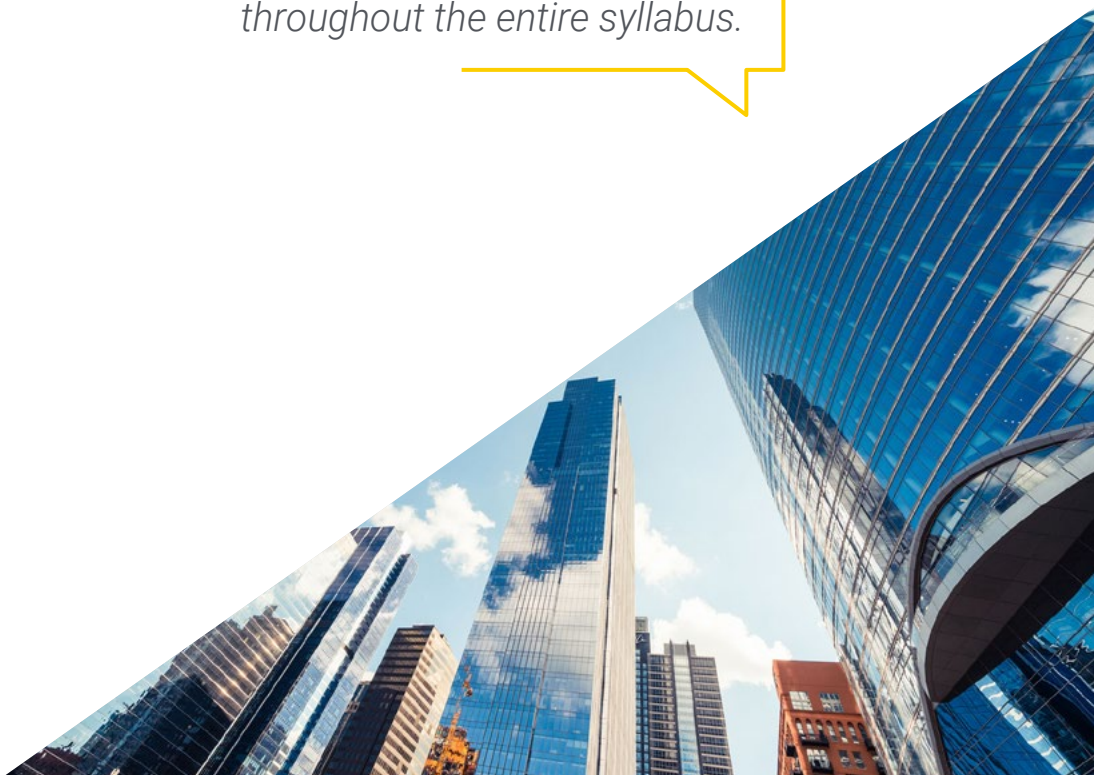
Looking to use platforms like Python to analyze large volumes of financial data? Get it through this university program in just 3 months.

You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.

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 Diploma, professionals will have a holistic knowledge of Advanced Financial Management with Artificial Intelligence. Likewise, graduates will develop competencies to handle Machine Learning algorithms to improve accuracy and efficiency in financial decision making. In tune with this, experts will be able to design innovative solutions that optimize financial processes through automation and predictive analytics.

You will handle the most sophisticated Big Data tools to perform financial analysis, economic forecasting and risk management"

General Objectives

- Apply Artificial Intelligence techniques in financial decision making
- Develop predictive models for financial risk management
- Optimize the allocation of financial resources using AI algorithms
- Automate routine financial processes using machine learning
- Implement natural language processing tools for the analysis of financial data
- Design recommender systems for the financial sector
- Analyze large volumes of financial data using Big Data techniques
- Evaluate the impact of Artificial Intelligence on companies' profitability
- Improve financial fraud detection with the use of AI
- Create financial asset valuation models using Artificial Intelligence
- Develop financial simulation tools based on AI algorithms
- Apply data mining techniques to identify financial patterns
- Develop optimization models for financial planning
- Use neural networks to improve prediction of market trends
- Develop AI-based solutions for financial product personalization
- Implement AI systems for automated investment decisions
- Develop analytical capabilities for interpreting the results of financial AI models
- Investigate the use of Artificial Intelligence in financial regulation and compliance
- Develop AI solutions to reduce costs in financial processes
- Identify opportunities for innovation in the financial sector through AI

Specific Objectives

Module 1. Automation of Financial Department Processes with Artificial Intelligence

- Master the automation of financial processes using Robotic Process Automation to optimize accuracy in tasks such as invoice processing
- Apply Deep Learning techniques to improve liquidity and working capital
- Create automated financial reports through Power Bi, increasing the speed of report writing
- Implement systems that minimize human error in the processing of economic data, increasing the reliability of financial information

Module 2. Strategic Planning and Decision Making with Artificial Intelligence

- Using the Scikit-Learn predictive model for strategic planning and informed financial decision making
- Manage TensorFlow to develop market strategies based on Artificial Intelligence, increasing the competitiveness and adaptability of companies in a dynamic financial environment

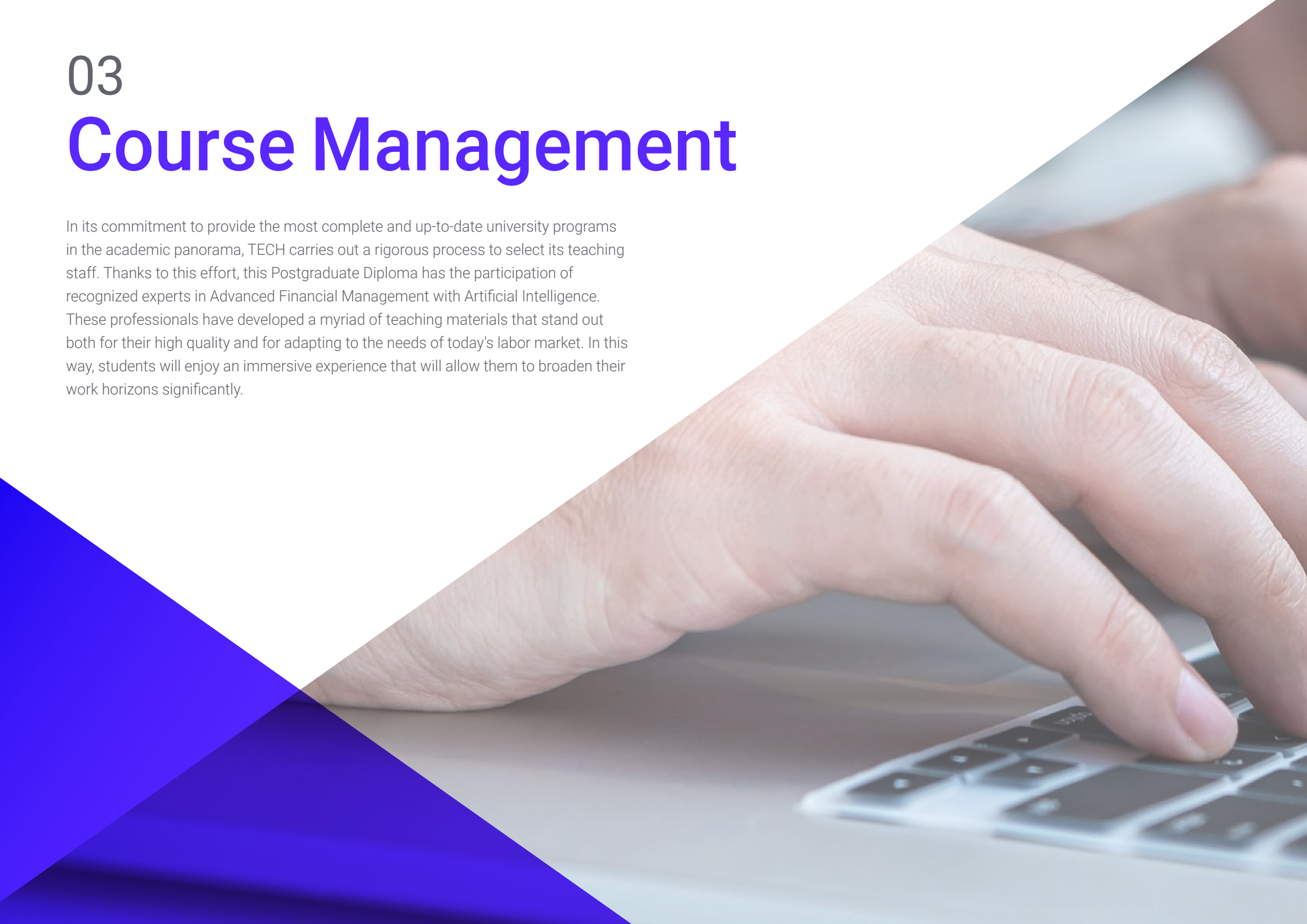
Module 3. Advanced Financial Optimization Techniques with OR-Tools

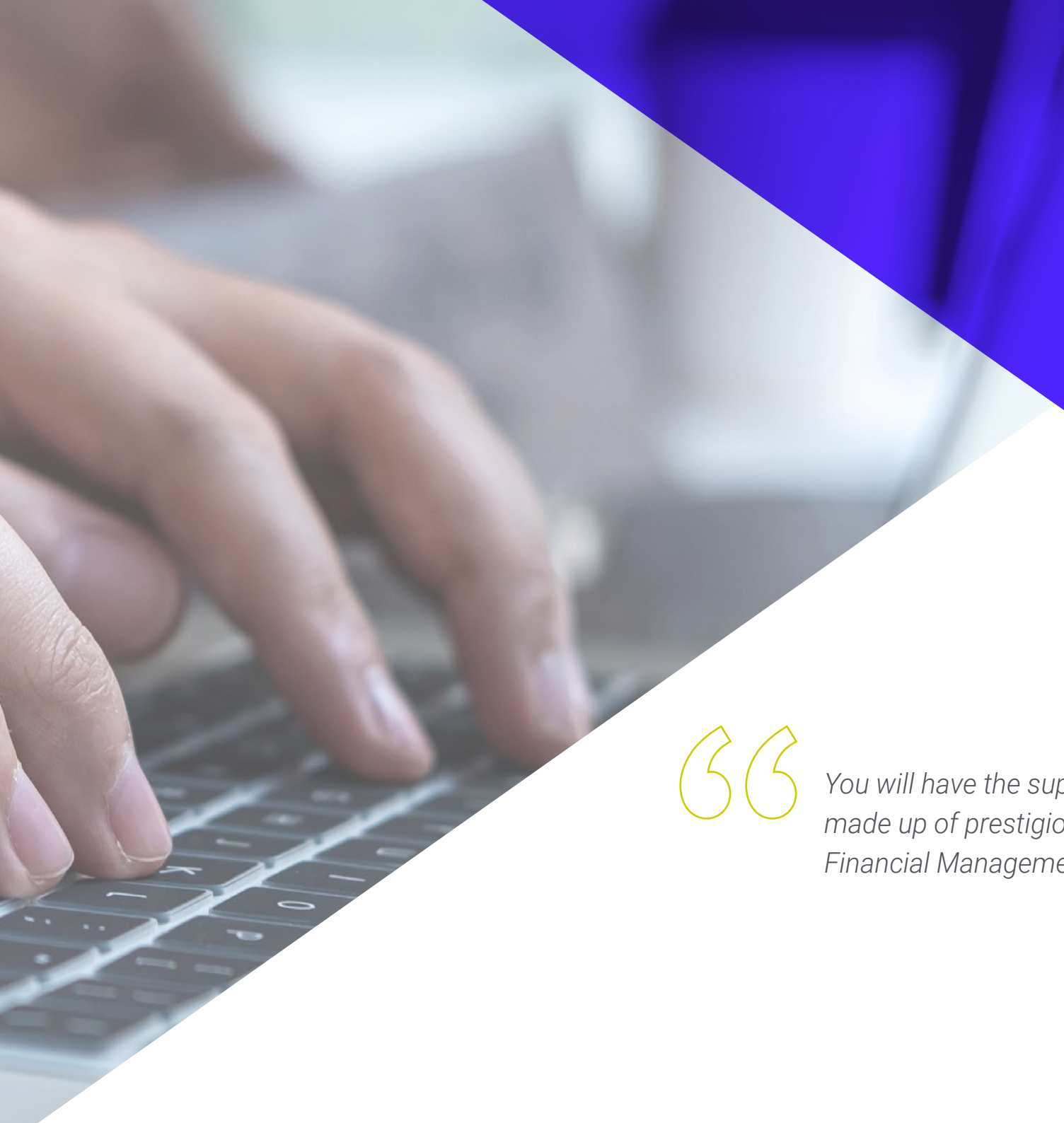
- Master investment portfolio optimization techniques using linear, nonlinear and stochastic programming to improve financial portfolios
- Apply genetic algorithms in financial optimization, exploring innovative solutions to complex problems

03

Course Management

In its commitment to provide the most complete and up-to-date university programs in the academic panorama, TECH carries out a rigorous process to select its teaching staff. Thanks to this effort, this Postgraduate Diploma has the participation of recognized experts in Advanced Financial Management with Artificial Intelligence. These professionals have developed a myriad of teaching materials that stand out both for their high quality and for adapting to the needs of today's labor market. In this way, students will enjoy an immersive experience that will allow them to broaden their work horizons significantly.





You will have the support of a teaching team made up of prestigious experts in Advanced Financial Management with Artificial Intelligence"

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
- Master 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

Dr. Carrasco Aguilar, Álvaro

- Sales & Marketing Coordinator at LionLingo
- Researcher in Information Technology Management
- PhD in Social and Health Research: Technical and Economic Evaluation of Technologies, Interventions and Policies Applied to Health Improvement from the University of Castilla La Mancha
- Master's Degree in Social and Health Research from the University of Castilla - La Mancha
- Degree in Political Science and Administration at the University of Granada
- Award for "Best Scientific Article for Technological Innovation for the Efficiency of Health Expenditure"
- Regular speaker at international scientific congresses

04

Structure and Content

The didactic materials that make up this university program have been prepared by authentic references in Advanced Financial Management with Artificial Intelligence. The study plan will delve into aspects ranging from the automation of financial processes or automatic invoice processing to the use of predictive techniques to optimize inventory management. Likewise, the syllabus will delve into the use of Monte Carlo simulations to evaluate the risk associated with different investments and strategies. In this way, students will develop advanced skills to integrate intelligence solutions in financial environments to automate processes.

You will design and implement innovative solutions that optimize financial processes through automation and predictive analytics"

Module 1. Automation of Financial Department Processes with Artificial Intelligence

1.1. Automation of Financial Processes with Artificial Intelligence and Robotic Process Automation (RPA)
- 1.1.1. AI and RPA for Process Automation and Robotization
- 1.1.2. RPA Platforms for Financial Processes: UiPath, Blue Prism, and Automation Anywhere
- 1.1.3. Evaluation of RPA Use Cases in Finance and Expected ROI

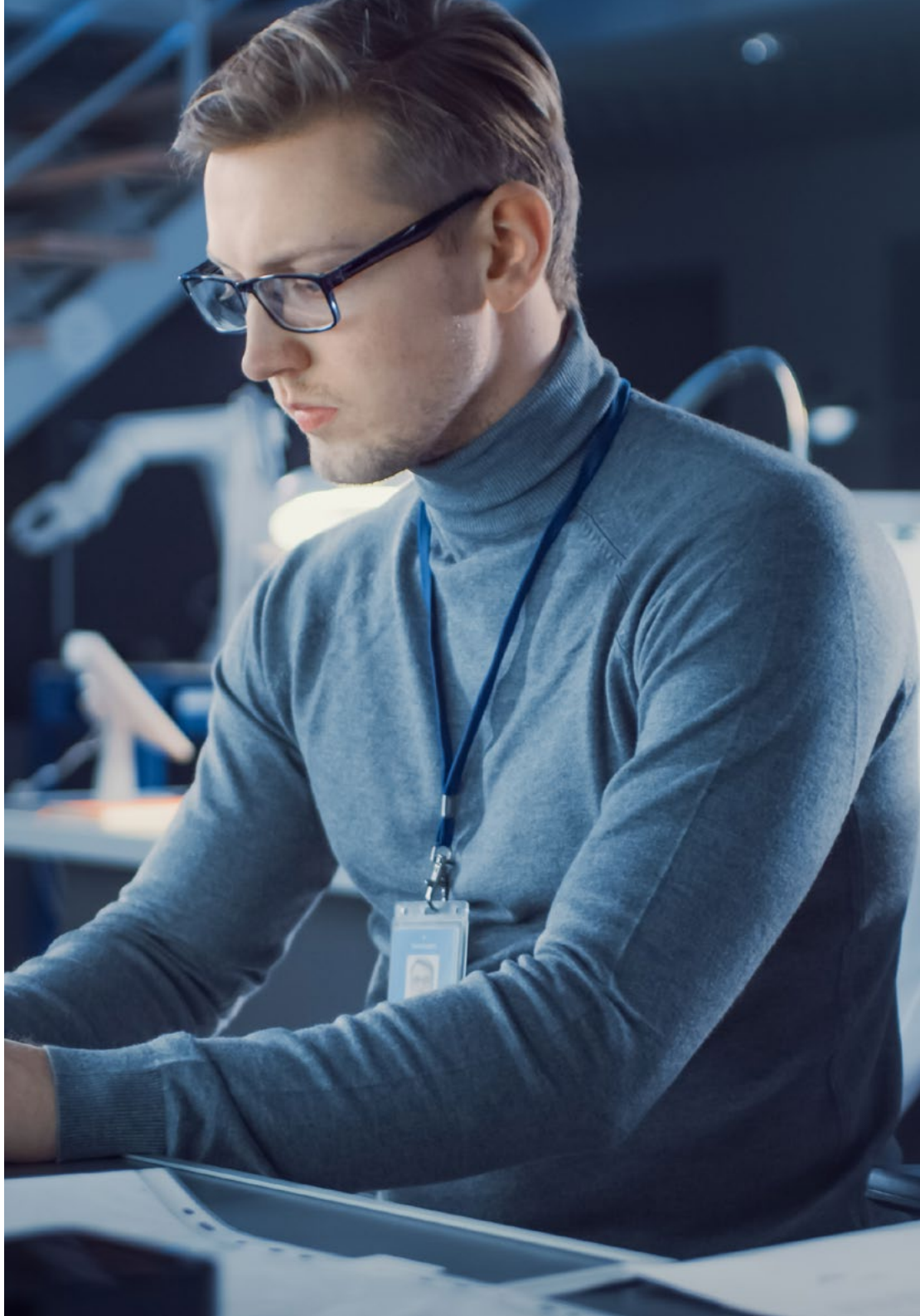
1.2. Automated Invoice Processing with AI with Kofax
- 1.2.1. Configuration of AI Solutions for Invoice Processing with Kofax
- 1.2.2. Application of Machine Learning Techniques for Invoice Classification
- 1.2.3. Automation of the Accounts Payable Cycle with AI Technologies

1.3. Payment Automation with AI Platforms
- 1.3.1. Implementing Automated Payment Systems with Stripe Radar and AI
- 1.3.2. Use of Predictive AI Models for Efficient Cash Management
- 1.3.3. Security in Automated Payment Systems: Fraud Prevention with AI

1.4. Bank Reconciliation with AI and Machine Learning
- 1.4.1. Automation of Bank Reconciliation Using AI with Platforms Such as Xero
- 1.4.2. Implementation of Machine Learning Algorithms to Improve Accuracy
- 1.4.3. Case Studies: Efficiency Improvements and Error Reduction

1.5. Cash Flow Management with Deep Learning and TensorFlow
- 1.5.1. Predictive Cash Flow Modeling with LSTM Networks Using TensorFlow
- 1.5.2. Implementation of LSTM Models in Python for Financial Forecasting
- 1.5.3. Integration of Predictive Models in Financial Planning Tools

1.6. Inventory Automation with Predictive Analytics
- 1.6.1. Use of Predictive Techniques to Optimize Inventory Management
- 1.6.2. Apply Predictive Models with Microsoft Azure Machine Learning
- 1.6.3. Integration of Inventory Management Systems with ERP



1.7. Creation of Automated Financial Reports with Power BI
- 1.7.1. Automation of Financial Reporting using Power BI
- 1.7.2. Developing Dynamic Dashboards for Real-Time Financial Analysis
- 1.7.3. Case Studies of Improvements in Financial Decision Making with Automated Reports

1.8. Purchasing Optimization with IBM Watson
- 1.8.1. Predictive Analytics for Purchasing Optimization with IBM Watson
- 1.8.2. AI Models for Negotiations and Pricing
- 1.8.3. Integration of AI Recommendations in Purchasing Platforms

1.9. Customer Support with Financial Chatbots and Google DialogFlow
- 1.9.1. Implementing Financial Chatbots with Google Dialogflow
- 1.9.2. Integration of Chatbots in CRM Platforms for Financial Support
- 1.9.3. Continuous Improvement of Chatbots Based on User Feedback

1.10. AI-Assisted Financial Auditing
- 1.10.1. IA Applications in Internal Audits: Transaction Analysis
- 1.10.2. Implementation of IA for Compliance Auditing and Discrepancy Detection
- 1.10.3. Improvement of Audit Efficiency with IA Technologies

Module 2. Strategic Planning and Decision Making with Artificial Intelligence

2.1. Predictive Modeling for Strategic Planning with Scikit-Learn
- 2.1.1. Building Predictive Models with Python and Scikit-Learn
- 2.1.2. Application of Regression Analysis in Project Evaluation
- 2.1.3. Validation of Predictive Models Using Cross-Validation Techniques in Python

2.2. Scenario Analysis with Monte Carlo Simulations
- 2.2.1. Implementation of Monte Carlo Simulations with Python for Risk Analysis
- 2.2.2. Use of AI for the Automation and Improvement of Scenario Simulations
- 2.2.3. Interpretation and Application of Results for Strategic Decision Making

2.3. Investment Appraisal using IA
- 2.3.1. IA Techniques for the Valuation of Assets and Companies
- 2.3.2. Machine Learning Models for Value Estimation with Python
- 2.3.3. Case Analysis: Use of AI in the Valuation of Technology Startups

2.4. Optimization of Mergers and Acquisitions with Machine Learning and TensorFlow
- 2.4.1. Predictive Modeling to Evaluate M&A Synergies with TensorFlow
- 2.4.2. Simulation of Post-M&A Integrations with AI Models
- 2.4.3. Use of NLP for Automated due Diligence Analysis

2.5. Portfolio Management with Genetic Algorithms
- 2.5.1. Use of Genetic Algorithms for Portfolio Optimization
- 2.5.2. Implementation of Selection and Allocation Strategies with Python
- 2.5.3. Analyzing the Effectiveness of Portfolios Optimized by AI

2.6. Artificial Intelligence for Succession Planning
- 2.6.1. Use of AI for Talent Identification and Development
- 2.6.2. Predictive Modeling for Succession Planning using Python
- 2.6.3. Improvements in Change Management using AI Integration

2.7. Market Strategy Development with AI and TensorFlow
- 2.7.1. Application of Deep Learning Techniques for Market Analysis
- 2.7.2. Use of TensorFlow and Keras for Market Trend Modeling
- 2.7.3. Development of Market Entry Strategies Based on AI Insights

2.8. Competitiveness and Competitive Analysis with AI and IBM Watson
- 2.8.1. Competitor Monitoring using NLP and Machine Learning
- 2.8.2. Automated Competitive Analysis with IBM Watson
- 2.8.3. Implementation of Competitive Strategies Derived from AI Analysis

2.9. AI-Assisted Strategic Negotiations
- 2.9.1. Application of IA Models in the Preparation of Negotiations
- 2.9.2. Use of IA-Based Negotiation Simulators for Training Purposes
- 2.9.3. Evaluation of the Impact of IA on Negotiation Results

2.10. Implementation of IA Projects in Financial Strategy
- 2.10.1. Planning and Management of IA Projects
- 2.10.2. Use of Project Management Tools Such as Microsoft Project
- 2.10.3. Presentation of Case Studies and Analysis of Success and Learning

Module 3. Advanced Financial Optimization Techniques with OR-Tools

3.1. Introduction to Financial Optimization
- 3.1.1. Basic Optimization Concepts
- 3.1.2. Optimization Tools and Techniques in Finance
- 3.1.3. Applications of Optimization in Finance

3.2. Investment Portfolio Optimization
- 3.2.1. Markowitz Models for Portfolio Optimization
- 3.2.3. Portfolio Optimization with Constraints
- 3.2.4. Implementation of Optimization Models with OR-Tools in Python

3.3. Genetic Algorithms in Finance
- 3.3.1. Introduction to Genetic Algorithms
- 3.3.2. Application of Genetic Algorithms in Financial Optimization
- 3.3.3. Practical Examples and Case Studies

3.4. Linear and Nonlinear Programming in Finance
- 3.4.1. Fundamentals of Linear and Nonlinear Programming
- 3.4.2. Applications in Portfolio Management and Resource Optimization
- 3.4.3. Tools for Solving Linear Programming Problems

3.5. Stochastic Optimization in Finance
- 3.5.1. Concepts of Stochastic Optimization
- 3.5.2. Applications in Risk Management and Financial Derivatives
- 3.5.3. Stochastic Optimization Models and Techniques

3.6. Robust Optimization and its Application in Finance
- 3.6.1. Fundamentals of Robust Optimization
- 3.6.2. Applications in Uncertain Financial Environments
- 3.6.3. Case Studies and Examples of Robust Optimization

3.7. Multi-Objective Optimization in Finance
- 3.7.1. Introduction to Multiobjective Optimization
- 3.7.2. Applications in Diversification and Asset Allocation
- 3.7.3. Techniques and Tools for Multiobjective Optimization

3.8. Machine Learning for Financial Optimization
- 3.1.1. Application of Machine Learning Techniques in Optimization
- 3.1.2. Optimization Algorithms Based on Machine Learning
- 3.1.3. Implementation and Case Studies

3.9. Optimization Tools in Python and OR-Tools
- 3.9.1. Python Optimization Libraries and Tools (SciPy, OR-Tools).
- 3.9.2. Practical Implementation of Optimization Problems
- 3.9.3. Examples of Financial Applications

3.10. Projects and Practical Applications of Financial Optimization
- 3.10.1. Development of Financial Optimization Projects
- 3.10.2. Implementation of Optimization Solutions in the Financial Sector
- 3.10.3. Evaluation and Presentation of Project Results

You will achieve your academic goals quickly and comfortably, without unnecessary trips to a study center, thanks to TECH's 100% online methodology"

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

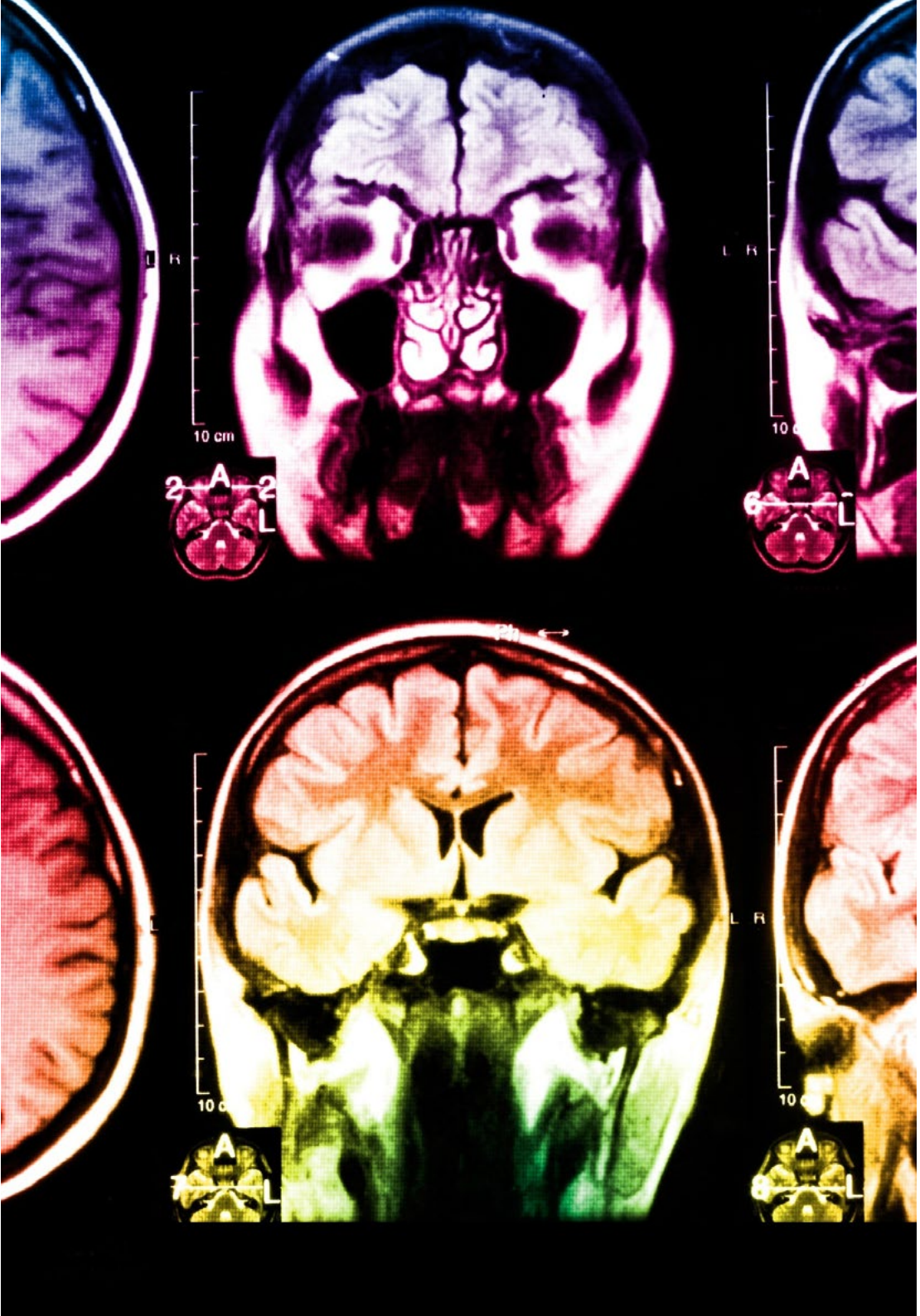
TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

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.



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.

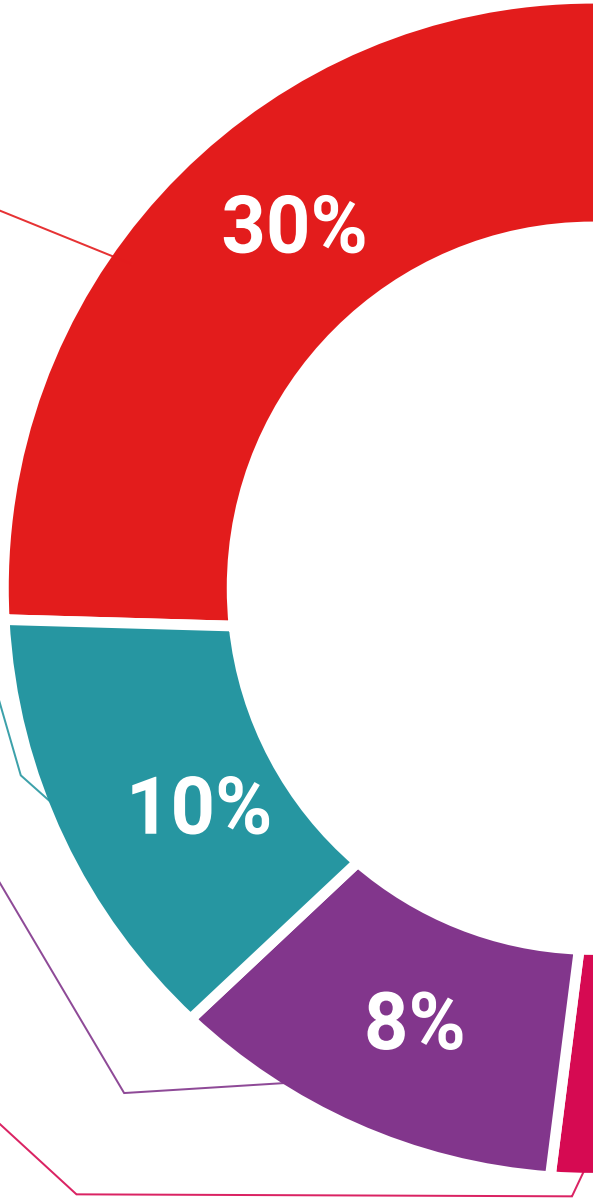
Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.

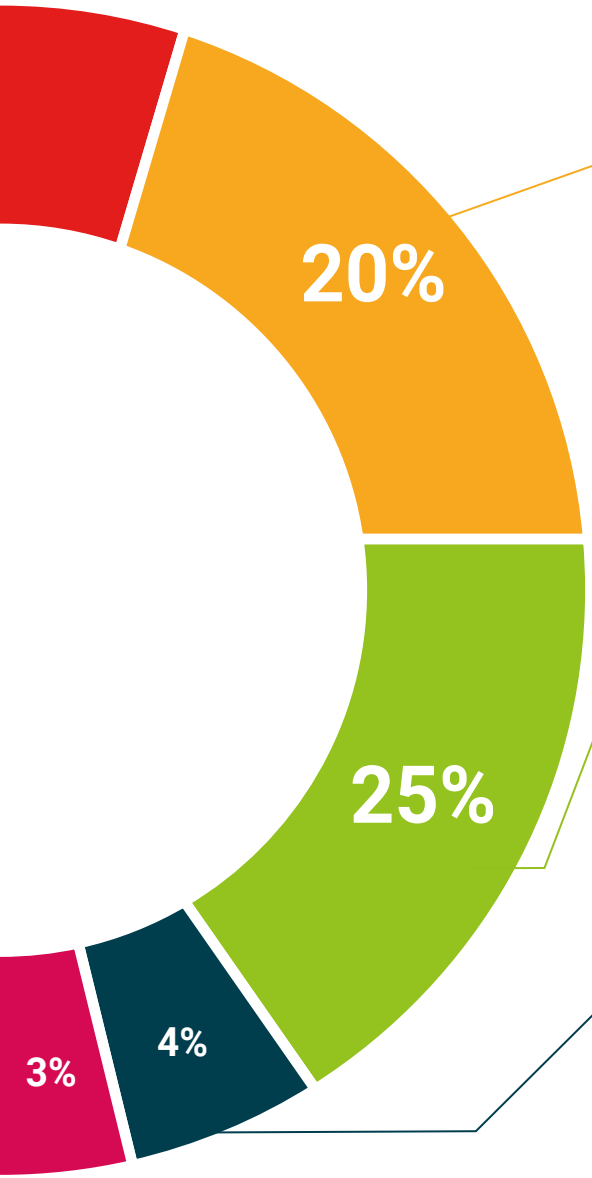
Practising Skills and Abilities

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.





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

This Postgraduate Diploma in Advanced Financial Management with Artificial Intelligence guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Diploma 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 Diploma in Advanced Financial Management 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 Diploma in Advanced Financial Management with Artificial Intelligence**

Modality: **online**

Duration: **6 months**

Accreditation: **18 ECTS**


tech global university

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

Postgraduate Diploma in Advanced Financial Management with Artificial Intelligence

This is a private qualification of 540 hours of duration equivalent to 18 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.

tech global university

Postgraduate Diploma

Advanced Financial Management with Artificial Intelligence

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

Postgraduate Diploma

Advanced Financial Management with Artificial Intelligence

tech global university