Postgraduate Certificate

Financial Data Analysis and Visualization with Plotly and Google Data Studio

tech technological university

Postgraduate Certificate
Financial Data Analysis and Visualization with Plotly and Google Data Studio

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

Website: **www.techtitute.com/us/artificial-intelligence/postgraduate-certificate/financiald-data-analysis-visualization-plotly-google-data-studio**

Index

01
Introduction

Data Visualization has evolved as an essential tool for financial analysis, allowing industry professionals to identify trends and anomalies more efficiently. In this sense, both Plotly and Google Data Studio have become useful tools for creating interactive and customized visualizations such as timelines or scatter plots. Therefore, these tools make it possible to transform complex financial data into visually accessible information to detect trends, historical behavior and correlations between different financial variables. Therefore, experts need to acquire advanced skills to get the most out of these tools. In this scenario, TECH launches a cutting-edge online program dedicated to the Financial Data Analysis and Visualization with Plotly and Google Data Studio.

tech

Thanks to this 100% online Postgraduate Certificate, you will use Plotly and Google Data Studio to create dashboards or graphs of Financial Data"

A new report by the Organization for Economic Cooperation and Development highlights that 90% of financial analysts consider Data Visualization a critical decision-making skill. In response to this trend, tools such as Plotly and Google Data Studio have been adopted by international financial institutions for the creation of visual reports that facilitate the understanding of both macroeconomic and microeconomic indicators. Hence the importance for professionals to keep abreast of the latest developments in this field in order to improve the clarity and accessibility of financial reports.

In this context, TECH presents a pioneering program in Financial Data Analysis and Visualization with Plotly and Google Data Studio. Designed by references in this field, the academic itinerary will delve into issues ranging from the most innovative techniques for the exploratory analysis of financial data or the identification of trends to time series models. Likewise, the syllabus will analyze the use of interactive visualization tools such as Dash, which will allow students to analyze financial time series such as historical stock prices, interest rates or sales trends. In this way, graduates will develop advanced skills to create complex visualizations of financial data using Plotly and Google Data Studio.

To consolidate all this content, TECH uses its disruptive Relearning method, which consists of the progressive reiteration of key concepts for their correct assimilation. In addition, the university program provides professionals with a variety of real case studies, allowing professionals to practice in simulated environments to acquire advanced skills. In this sense, to access the didactic resources, graduates will only need to have an electronic device with an Internet connection. Therefore, they will access the Virtual Campus and will enjoy a library full of multimedia resources such as interactive summaries, specialized readings or explanatory videos.

This **Postgraduate Certificate in Financial Data Analysis and Visualization with Plotly and Google Data Studio** 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

Master Python Data Analytics libraries at the world's best digital university according to Forbes"

Looking to identify financial problems and propose solutions based on Data Analytics? Get it through this university program in just 6 weeks.

"*You'll delve into how Natural Language Processing enables you to generate summaries of financial reports, meeting transcripts, and legal documents*"

TECH's revolutionary Relearning system will allow you to assimilate the most complex concepts in a fast, natural and accurate way.

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, professionals will master the tools of Plotly and Google Data Studio to create interactive graphics that facilitate the interpretation of financial data. At the same time, students will develop advanced skills to analyze large volumes of financial data and extract relevant information to support strategic decision making. In this sense, graduates will use both Data Analysis and Data Visualization to identify trends, patterns and opportunities in the financial arena that will significantly improve business strategy.

tech

"*You will acquire advanced skills to create complex charts and visualizations using both Plotly and Google Data Studio, therefore adapting to different financial contexts*"

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

◆ Develop advanced skills to use tools such as Google Data Studio to create interactive visualizations that can be used to analyze and visualize financial data

◆ Accurately analyze financial time series and detect both historical trends and recurring patterns

This university program has a wide range of multimedia resources such as explanatory videos or interactive summaries, allowing for more dynamic learning"

03
Course Management

TECH's main premise is to offer the most complete and updated university programs in the academic panorama, which is why it carefully selects its respective teaching staff. For the delivery of this Postgraduate Certificate, TECH brings together the leading specialists in Financial Data Analysis and Visualization with Plotly and Google Data Studio. These professionals have created a variety of didactic resources that stand out for their high quality and for adapting to the requirements of the current labor market. In this way, students will be immersed in an intensive experience that will allow them to improve their job prospects considerably.

You will be supported by a teaching team made up of recognized experts in Financial Data Analysis and Visualization with Plotly and Google Data Studio"

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 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

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 study plan will delve into the most sophisticated techniques of exploratory analysis of financial data, taking into account factors such as information visualization with Python or the identification of patterns and trends. In this sense, the syllabus will delve into the evaluation of clusters in financial data so that students can create predictive models that improve strategic decision making based on data. In addition, the didactic materials will analyze the use of tools for text analysis, which will allow graduates to identify patterns in financial reports such as balance sheets, income statements and cash flows.
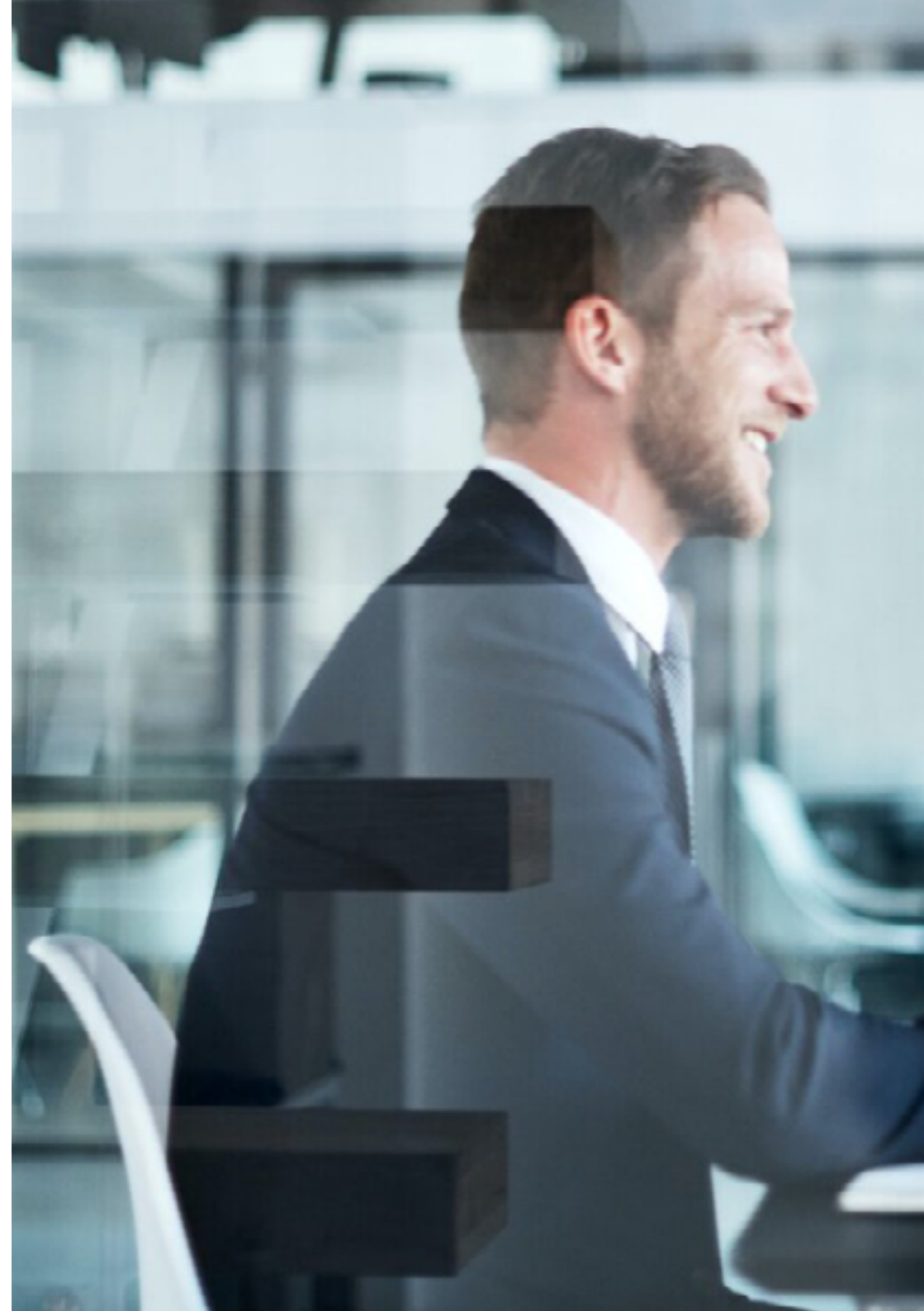
You will integrate data from different sources in Business Intelligence tools to obtain a comprehensive view of a company's financial situation"

Module 1. Financial Data Analysis and Visualization with Plotly and Google Data Studio

1.1.   Fundamentals of Financial Data Analysis

    1.1.1.   Introduction to Data Analysis

    1.1.2.   Tools and Techniques for Financial Data Analysis

    1.1.3.   Importance of Data Analysis in Finance

1.2.   Techniques for Exploratory Analysis of Financial Data

    1.2.1.   Descriptive Analysis of Financial Data

    1.2.2.   Visualization of Financial Data with Python and R

    1.2.3.   Identify Patterns and Trends in Financial Data

1.3.   Financial Time Series Analysis

    1.3.1.   Fundamentals of Time Series

    1.3.2.   Time Series Models for Financial Data

    1.3.3.   Time Series Analysis and Forecasting

1.4.   Correlation and Causality Analysis in Finance

    1.4.1.   Correlation Analysis Methods

    1.4.2.   Techniques for Identifying Causal Relationships

    1.4.3.   Applications in Financial Analysis

1.5.   Advanced Visualization of Financial Data

    1.5.1.   Advanced Data Visualization Techniques

    1.5.2.   Tools for Interactive Visualization (Plotly, Dash)

    1.5.3.   Use Cases and Practical Examples

1.6.   Cluster Analysis in Financial Data

    1.6.1.   Introduction to Cluster Analysis

    1.6.2.   Applications in Market and Customer Segmentation

    1.6.3.   Tools and Techniques for Cluster Analysis

You will be able to conveniently access the content of this Postgraduate Certificate from your electronic device with Internet of choice. Even from your smartphone!"

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.

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 Financial Data Analysis and Visualization with Plotly and Google Data Studio guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.

This **Postgraduate Certificate in Financial Data Analysis and Visualization with Plotly and Google Data Studio** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery*.

The diploma issued by **TECH Technological University** will reflect the qualification obtained in Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Postgraduate Certificate in Financial Data Analysis and Visualization with Plotly and Google Data Studio**

Modality: **online**

Duration: **6 weeks**

tech technological university

Awards the following

DIPLOMA

to

Mr./Ms. _____, with identification number _____.
For having passed and accredited the following program

POSTGRADUATE CERTIFICATE

in

Financial Data Analysisand Visualization
with Plotly and Google Data Studio

This is a qualification awarded by this University, equivalent to 150 hours, with a start date of dd/mm/yyyy and an end date of dd/mm/yyyy.

TECH is a Private Institution of Higher Education recognized by the Ministry of Public Education as of June 28, 2018.

June 17, 2020

Tere Guevara Navarro
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 EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

tech technological university

Postgraduate Certificate
Financial Data Analysis
and Visualization with Plotly
and Google Data Studio

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

Postgraduate Certificate
Financial Data Analysis and Visualization with Plotly and Google Data Studio

tech *technological university*