

CHARTERED 
INSTITUTE OF PROFESSIONAL CERTIFICATIONS

ADVANCED STATISTICAL TECHNIQUES, DATA ANALYSIS AND VISUALIZATION FOR RESEARCH ANALYSIS

**Fully Accredited
By:**

Chartered Institute of
Professional Certifications

CPD
Certification Service

PROGRAM OVERVIEW



As the world becomes increasingly data-driven, skilled research analysis is critical for organizations to gain actionable insights. With IDC estimating that global data volume will exponentially grow to 175 zettabytes by 2025, the ability to draw meaningful insights through rigorous analysis techniques separates pioneering research from the ordinary.

Led by Thanos Petsakos, an award-winning data scientist and research analysis expert, this comprehensive certification program will equip you with cutting-edge strategies and latest research analysis capabilities needed to derive impactful insights. The program provides an in-depth exploration of **critical topics and skills needed to master complex data analysis, building from fundamental statistical concepts and inductive/deductive approaches to formulating incisive research questions**. You will delve into descriptive and inferential statistical analysis, quantitative methods like regression and ANOVA, and **principles of impactful data visualization and representation to help you to effectively communicate data insights**.

Throughout the program, you will obtain hands-on experience in **exploratory data analysis (EDA), sampling techniques, data correlation, and evaluating how research philosophy influences analysis**. This program will also pay special attention to **ethical considerations in statistical analysis and data manipulation**, enabling you to uphold the highest standards of research integrity. You will also learn how to **assess and compare international regulatory guidelines, academic standards, and ethical norms in data analysis**, offering you a broad perspective on global research practices.

By the end of the program, you will have obtained the sophisticated analytical skillset and knowledge to tackle real-world research challenges and establish yourself as a skilled research analysts ready to extract and translate insights from multifaceted data.

Upon successful completion of the program, you will earn the **Certification in Advanced Statistical Techniques, Data Analysis and Visualization for Research Analysis**. This distinguished certification will serve as a testament to your mastery of advanced analytical skills and proficiency in translating data insights, establishing you as an esteemed expert in driving complex research analysis and data-driven decision-making. Globally recognized and valued, this industry-recognized certification holds lifelong validity underscores your expertise and excellence in the field of research analysis.

ACCREDITATIONS



4.8



4.6



KEY SKILLS YOU WILL GAIN

From This Program



**INDUCTIVE APPROACH
DEDUCTIVE APPROACH
STATISTICAL ANALYSIS
DATA VISUALIZATION**

**DATA INFERENCE
STATISTICAL HYPOTHESIS
RESEARCH DESIGN
EXPLORATORY DATA ANALYSIS (EDA)**

**QUANTITATIVE DATA ANALYSIS
DATA SAMPLING
DATA CORRELATION
RESEARCH PHILOSOPHY**

**DATA ANALYSIS
REGRESSION MODEL
ANALYTICAL THINKING
DATA MODELLING
ADVANCED STATISTICAL TECHNIQUES**

**TIME SERIES ANALYSIS
MODEL SELECTION AND EVALUATION
STRATEGIES**

YOUR FACULTY DIRECTOR



Thanos Petsakos

Award-Winning Data Science & Machine Learning Expert

Thanos Petsakos is an award-winning presenter, renowned for his expertise in the fields of data science and machine learning. With a rich background as a **data scientist in prominent Fortune 500 companies such as Ernst & Young**, Thanos has honed his skills and acquired extensive experience in **delivering impactful data-driven solutions**. His profound knowledge and ability to effectively present complex concepts have made him a **sought-after guest speaker** at prestigious seminars and conferences around the globe. Notably, he was bestowed with the **Best Presenter title at the DSIT 2021 conference in Shanghai, China**, solidifying his reputation as an exceptional presenter.

In addition, Thanos shares his expertise as a **distinguished instructor in influential universities across Europe and renowned institutions worldwide**. He has also contributed significantly to the field through his **authorship of numerous articles and co-authorship of books dedicated to advancing the field of data science**. Thanos Petsakos's impressive career trajectory, profound expertise, and remarkable contributions continue to shape and inspire the field, solidifying his status as a leading expert in the industry.

OUR PARTICIPANTS

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PROGRAM AGENDA

MODULE 1 - INTRODUCTION AND OVERVIEW OF STATISTICAL TECHNIQUES AND DATA ANALYSIS

Overview of 'Statistical Techniques and Data Analysis'

- Lesson 1 - Importance of Statistical Techniques in Research Analysis
- Lesson 2 - Exploring Different Types of Data and Their Characteristics

MODULE 2 - INDUCTIVE AND DEDUCTIVE APPROACHES IN RESEARCH ANALYSIS

Overview of 'Inductive and Deductive Approaches in Research Analysis'

- Lesson 1 - Understanding the Inductive and Deductive Approaches and their Applications in Research
- Lesson 2 - Exploring the Process of Formulating Research Questions and Hypotheses

MODULE 3 - STATISTICAL ANALYSIS TECHNIQUES AND APPLICATIONS

Overview of 'Statistical Analysis Techniques and Applications'

- Lesson 1 - Introduction to Various Statistical Analysis Techniques - Descriptive Statistics

- Lesson 2 - Introduction to Various Statistical Analysis Techniques - Inferential Statistics
- Lesson 3 - Types of Inferential Statistics and Deep Dive
- Lesson 4 - Application of Statistical Techniques in Research Analysis

MODULE 4 - DATA VISUALIZATION AND ITS IMPORTANCE

Overview of 'Data Visualization and Its Importance'

- Lesson 1 - Exploring the Significance of Data Visualization in Research Analysis
- Lesson 2 - Data Visualization - Heat Maps, Box Plots and More
- Lesson 3 - Choosing the Right Visualization for Your Data
- Lesson 4 - Introduction to Data Visualization Tools and Techniques
- Lesson 5 - Bonus Section on Data Visualization

MODULE 5 - DATA INFERENCE AND STATISTICAL HYPOTHESIS

Overview of 'Data Inference and Statistical Hypothesis'

- Lesson 1 - Understanding the Process of Data Inference

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- Lesson 2 - Introduction to Estimation
- Lesson 3 - Exploring Statistical Hypothesis Testing and Its Applications
- Lesson 4 - Understanding the Power of a Statistical Test

MODULE 6 - RESEARCH DESIGN PRINCIPLES AND CONSIDERATIONS

Overview of 'Research Design Principles and Considerations'

- Lesson 1 - Understanding the Principles and Considerations for Designing Research Studies
- Lesson 2 - Limitations & Biases
- Lesson 3 - Exploring Different Types of Research Designs and their Appropriateness

MODULE 7 - EXPLORATORY DATA ANALYSIS (EDA) TECHNIQUES AND APPROACHES

Overview of 'Exploratory Data Analysis (EDA) Techniques and Approaches'

- Lesson 1 - Introduction to EDA Techniques for Analyzing and Summarizing Data
- Lesson 2 - Exploring Graphical and Numerical EDA Techniques
- Lesson 3 - Geographical Data and Multivariate Analysis

MODULE 8 - QUANTITATIVE DATA ANALYSIS METHODS AND APPLICATIONS

Overview of 'Quantitative Data Analysis Methods and Applications'

- Lesson 1 - Introduction to Quantitative Data Analysis Methods
- Lesson 2 - Types of Regression & When to Use Them
- Lesson 3 - Application of Quantitative Data Analysis in Research

MODULE 9 - SAMPLING TECHNIQUES FOR COLLECTING DATA

Overview of 'Sampling Techniques for Collecting Data'

- Lesson 1 - Understanding the Importance of Sampling in Research Analysis
- Lesson 2 - Exploring Different Sampling Techniques and Their Applications

MODULE 10 - ANALYZING DATA CORRELATION AND RESEARCH PHILOSOPHY

Overview of 'Analyzing Data Correlation and Research Philosophy'

- Lesson 1 - Exploring the Concept of Data Correlation and Its Implications
- Lesson 2 - Introduction to Research Philosophy and Its Impact on Data Analysis



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MODULE 11 - CASE STUDIES ANALYSIS

Case Study 1 - IBM

Case Study 2 - Netflix

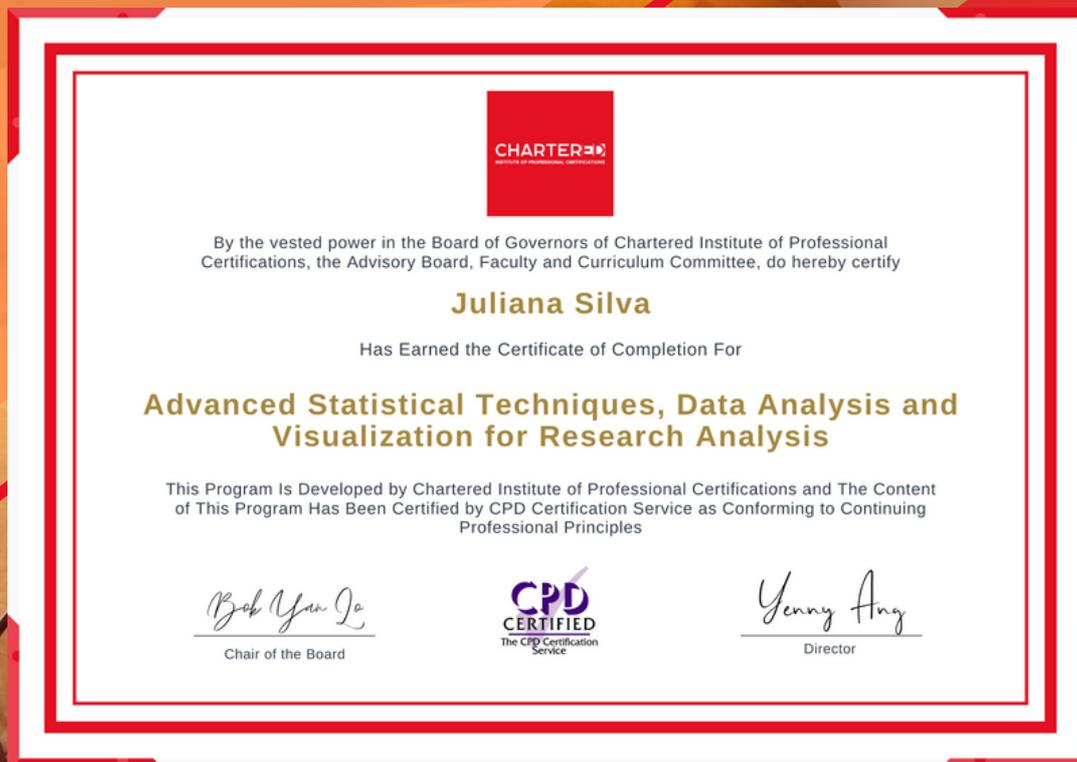
Case Study 3 - U.S. Census Bureau

Case Study 4 - Cleveland Clinic

Case Study 5 - Starbucks

EXAMINATION

YOUR CHARTER DESIGNATION



Chartered Institute of Professional Certification's programs are unique as they provide you with professional charter designation and mark that can be used across your lifetime once you have completed our programs.

Upon completing the program and passing the exam, you will receive the prestigious **Certification in Advanced Statistical Techniques, Data Analysis and Visualization for Research Analysis**. This distinguished certification will establish you as a recognized expert in applying effective statistical analysis techniques and data visualization for research analysis. It not only elevates your professional credibility but also enhance your marketability to potential employers or clients, making you stand out as a highly skilled and knowledgeable research analyst.

Globally demanded and recognized, this certification will amplify your professional qualifications and demonstrate your expertise in **navigating the intricacies involved in structural dynamics, including analyze and predict structural behavior under various loads and conditions**. Developed by **Chartered Institute of Professional Certifications**, the content of this program has been independently accredited by **CPD Certification Service** as adhering to the highest standards of continuing professional principles.

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CONTACT US TODAY

We Thank You for Your Ongoing Support
of Our Programs

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