€TRAINING

Mastering Regression Analytics

9 - 13 June 2025
Paris (France)

Mastering Regression Analytics

Introduction:

Regression analytics is a powerful framework that enables us to uncover valuable insights, make accurate predictions, and optimize decision-making processes across diverse industries and domains. This training program is designed to explore the foundational principles and methodologies that underpin regression analytics. From uncovering the fundamentals of data manipulation to unraveling the intricacies of regression modeling, participants will acquire the skills and insights necessary to extract meaningful patterns and relationships from complex datasets.

Program Objectives:

By the end of this program, participants will be able to:

- Explore the core concepts and applications of regression analysis.

- Perform data preprocessing and manipulation techniques for regression modeling.

- Develop and evaluate different types of regression models effectively.

- Interpret regression models and assess their performance using key metrics.

- Gain insights into modern trends and future directions in regression analytics.

Targeted Audience:

- Data Analysts and Data Scientists.

- Researchers.

- Business Analysts.

- Statisticians.

- Professionals in Various Industries.

Program Outlines:

Unit 1.

Introduction to Regression Analytics:

- Understand the fundamentals of regression analysis.

- Explore the importance of regression analytics in data science.

- Recognize the types of problems regression analysis can solve.

- Learn about the basic principles of linear regression.

- Gain insight into the assumptions underlying regression modeling.

Unit 2.

Data Manipulation Techniques:

- Learn data preprocessing techniques for regression analysis.

- Explore methods for handling missing data.

- Understand feature scaling and normalization.

- Learn how to handle categorical variables in regression analysis.

Unit 3.

Regression Modeling:

- Explore different types of regression models: linear regression and logistic regression.

- Understand the process of model selection and evaluation.

- Learn about regularization techniques: Lasso and Ridge regression.

- Gain insights into advanced regression models: polynomial regression and regression trees.

Unit 4:

Model Interpretation and Evaluation:

- Learn how to interpret regression model coefficients.

- Understand measures of model performance: R-squared and Mean Squared Error MSE.

- Explore diagnostic plots for regression model evaluation.

- Learn about cross-validation techniques for assessing model generalization.

- Gain insights into common pitfalls and challenges in regression modeling.

Unit 5:

Modern Trends in Regression Analytics:

- Explore recent advancements in regression techniques and methodologies.

- Understand the integration of regression with machine learning frameworks.

- Learn about regression modeling in large-scale and high-dimensional datasets.

- Cloud-based platforms for regression analytics.