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Business Research Unit

2 JUNE 2026
16h00**Room A104**Iscte – University Institute of Lisbon
Building 4 | Room A104
Av. Forças Armadas, 40
1649-026 Lisbon

Machine Learning Strategies for Pricing Options in Financial Markets



Guest speaker

Sajid Ali**BRU-Iscte****Session chair:**

João Pedro Nunes

Abstract: An extensive analysis of European call option pricing on the S&P 500 (SPX) index over 2017–2022, covering both low- and high-volatility regimes. A comprehensive set of models is considered, including the classical Black–Scholes framework and a wide range of machine learning approaches, such as Random Forest, XGBoost, AdaBoost, Support Vector Regression, K-Nearest Neighbours, Linear Regression, and a Neural Network. The study evaluates model performance in terms of pricing accuracy across different market conditions, demonstrating the robustness of ensemble tree-based methods. We also employ explainable AI (XAI) techniques, to analyze contributions of input features in option pricing models.



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