

東海大學統計學系學術演講

時 間：115 年 3 月 24 日（星期二下午 14:10~15:00）

地 點：管理學院新大樓 M242

主講人：鄭宏文 教授（東吳大學 資料科學系）

講 題：Cryptocurrency Risk Factors via Machine Learning

Abstract

This paper conducts a comparative analysis of machine learning methods for the canonical problem of empirical asset pricing, forecasting cross-sectional returns. Using a large panel of cryptocurrencies and market-based predictors, we find that machine learning models, particularly gradient boosting methods, deliver significantly higher out-of-sample predictive accuracy and investment performance than traditional linear benchmarks. In value-weighted portfolio strategies, the best-performing model (XGBoost) more than triples the sharpe ratio of the OLS benchmark. We attribute these gains to the model's ability to capture complex nonlinear interactions among predictors, which are missed by simpler methods. While neural networks and regularized regressions offer moderate improvements, tree-based methods consistently outperform. Unlike the equity literature, we find little evidence of momentum effects; instead, the most informative features are related to volatility, liquidity, and extreme return behavior.

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