

# BIG DATA & ALGORITHMIC FINANCE



## **Mo WANG**

PhD student, ESSEC Business School

Mo Wang is a PhD student at ESSEC Business School. His research interests are empirical asset pricing, financial econometrics and deep learning. Specifically, Mo is working on exploring the predictability of option returns.

## **OPTION MISPRICING AND ALPHA PORTFOLIOS**

Mo WANG, Andras FULOP, and Junye LI.

Relying on a latent factor model with time-varying dependence of systematic risk and mispricing on firm and option characteristics, we reveal economically substantial mispricing in the options market. The portfolio based on individual options alphas related to characteristics earns an out-of-sample annualized Sharpe ratio of 1.62 in call option returns and of 1.86 in put option returns. Commonly used risk factors in the stock and options markets are incapable of explaining abnormal returns of option alpha portfolios. We show that characteristics related to risk-neutral moments and liquidity and their interactions largely contribute to option mispricing and that many characteristics that contribute to systematic risk also contribute to mispricing at times.

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