

國立高雄大學統計學研究所

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Dynamic asset allocation based on machine learning

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Abstract

This study proposes a dynamic asset allocation strategy based on machine learning. The first part of the strategy uses daily stock prices and some popular variables to cluster the trading days by Single-cell Interpretation via Multi-kernel Learning. The associated operation direction, optimal take-profit threshold, and optimal stop-loss point for each cluster are calculated accordingly. The second part confirms the operation position according to several technical indicators and the operation direction suggested in the first part. The third part predicts operation positions for new data by combining multiple machine learning methods. We employ the Langan stock price data from March 2012 to February 2022 from the TEJPro database to investigate the investment performance of the proposed method. Numerical results reveal that the proposed trading strategy it has a more stable investment performance than competitors.

Keywords : optimal take-profit threshold, optimal stop-loss point, trading strategy

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