國 立 中 央 大 學

統 計 研 究 所

學 術 演 講

主 講 人：林良靖 教授（國立成功大學統計學系）

講　　題：**A geometric algorithm for contrastive PCA in high dimension**

時　　間：**112年11月28日（星期二）上午11：00 ～ 12：00**

地　　點：**中央大學鴻經館M429室**

茶　　會：**上午 10：30 ～ 11：00**　　地　點：**鴻經館 510 室**

ABSTRACT

The modern portfolio theory can assist us in allocating wealth to risky and risk-free assets reasonably by using some statistical methods. In this study, we will focus on evolving Merton's portfolio problem. Instead of the conventional parameter estimations based on only the closing prices, we include the opening, high, low, and closing prices to enlarge the database as much as possible to make the parameter estimations much more accurate. Furthermore, we consider a weighted arithmetic mean of estimations obtained from different lengths of training datasets to stabilize the estimators in which the weights are evaluated by using the least squared method. In addition, we use the LightGBM to predict the transaction directions and include not only the prices as tradition but also many statistics to be the features. In real data analysis, we demonstrate the usefulness of combining the methods above by showing the portfolio profits of selecting 10 stocks in 2018 and 2019. The results particularly show the superiority of the proposed strategy over the conventional method: the profits are almost positive and have around 32% to 72% annually.

This work is cooperated with Sz-Wei Charng（國立成功大學）

Keywords：LightGBM; Merton's portfolio problem; Symbolic interval-valued estimation.

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