Application of a Nonlinear Model in Predictions of Returns on Investment.

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- **Abstract:** The uncertainty in worldwide stock markets has been growing since the emergence of Covid-19. Returns on investment are difficult to predict due to this market uncertainty, and we can see that it is a nonlinear model compared to past trends. Therefore, it is necessary to create a model that can reflect correct trends. If the model is nonlinear, it is correct to reflect the appropriate weighting value. If using data containing outliers, estimating a nonlinear model is very complicated and difficult, compared to estimating a linear model. In this study, we introduce a detection method that uses a mean-shift model for growth portfolios that include outliers in nonlinear models.
- **Keywords:** Asset, growth curve model, mean-shift model, nonlinear model, outliers, investment portfolio