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Title: Applications of machine learning for volatility estimation and quantitative strategies

Abstract: Most applications of quantitative trading and investing require the forecast of the future realized volatility as a key input. While there are many models for volatility measurement and forecast, the key decision is how to select the best models with the highest predicative power for a given application. I apply the methods of supervised machine learning and learning to rank for the machine-based selection of volatility models. I demonstrate applications of this framework to trading strategies in implied vs realized volatilities and to designing volatility-targeting products.