Applying Option Greeks to Neural Network to Forecast Implied Volatility in the Options Market

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Abstract

This paper forecasts the movements of implied volatility values of options at ATM in the derivatives market to enhance the methods of investing in the financial market. In an attempt to accurately predict the movements of implied volatility, a number of different variables were tested. The tested variables include option Greeks, disparate ratio, basis, implied volatility, and the representative values of all the mentioned elements. Sliding window was the main method used for forecasting through neural network, an artificial intelligence tool. Moreover, an experiment was processed for forecasting based on randomly selected testing periods to validate the robustness of the proposed model. This study is empirically tested for the Korean financial market.