



Honors Research Presentation in Economics

Elliot Bainbridge

The focus of this research is to investigate the use of advanced statistical models, that have been developed during the 21st century along with fast modern computer programming language, to create a model that accurately maps and forecasts market options prices. The forecasting of this model will provide vital information for the financier as to whether an option is under or overpriced, something that the BSM model does not allow.

Analysis of the advanced statistical models used showed that using the variables of the BSM model, a more accurate model can be developed. This was determined by observing a lower root mean squared error (RMSE) over the training and test datasets than that of the BSM model. In addition to this we were able to forecast prices 10 days into the future, something that is not possible with the BSM model, with surprising accuracy. Our final model overvalued the observed market options price by 5.71%, whereas the BSM undervalued the observed market options price by 42.86.

When/Where

- Wednesday, May 26, 2021 at 4:00 – 5:00pm
- SMC A-203 and Zoom Room 820 3569 7671