

Fintech Related Machine Learning:

Experimental Investigation on the Effects of Data Variance Towards Difficulty of Learning for Deep Learning Models



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BACKGROUND

The use of Deep Learning models, for Fintech applications has become more prevalent in recent years. One such example, is the utilization of Deep Learning models for solving Fintech tasks surrounding the trading of financial instruments such as Stocks or Forex.

In the past, research that tackled stock market prediction tasks using Deep Learning models, often do not take into consideration if the data used to train the Deep Learning models fully captured the variations and economic trends present in stock data necessary for learning the task of stock prediction, and minimal work has been done to study the effects of variations present in the training data on the ability of the models to learn the task of stock market predictions.

PROJECT OBJECTIVES

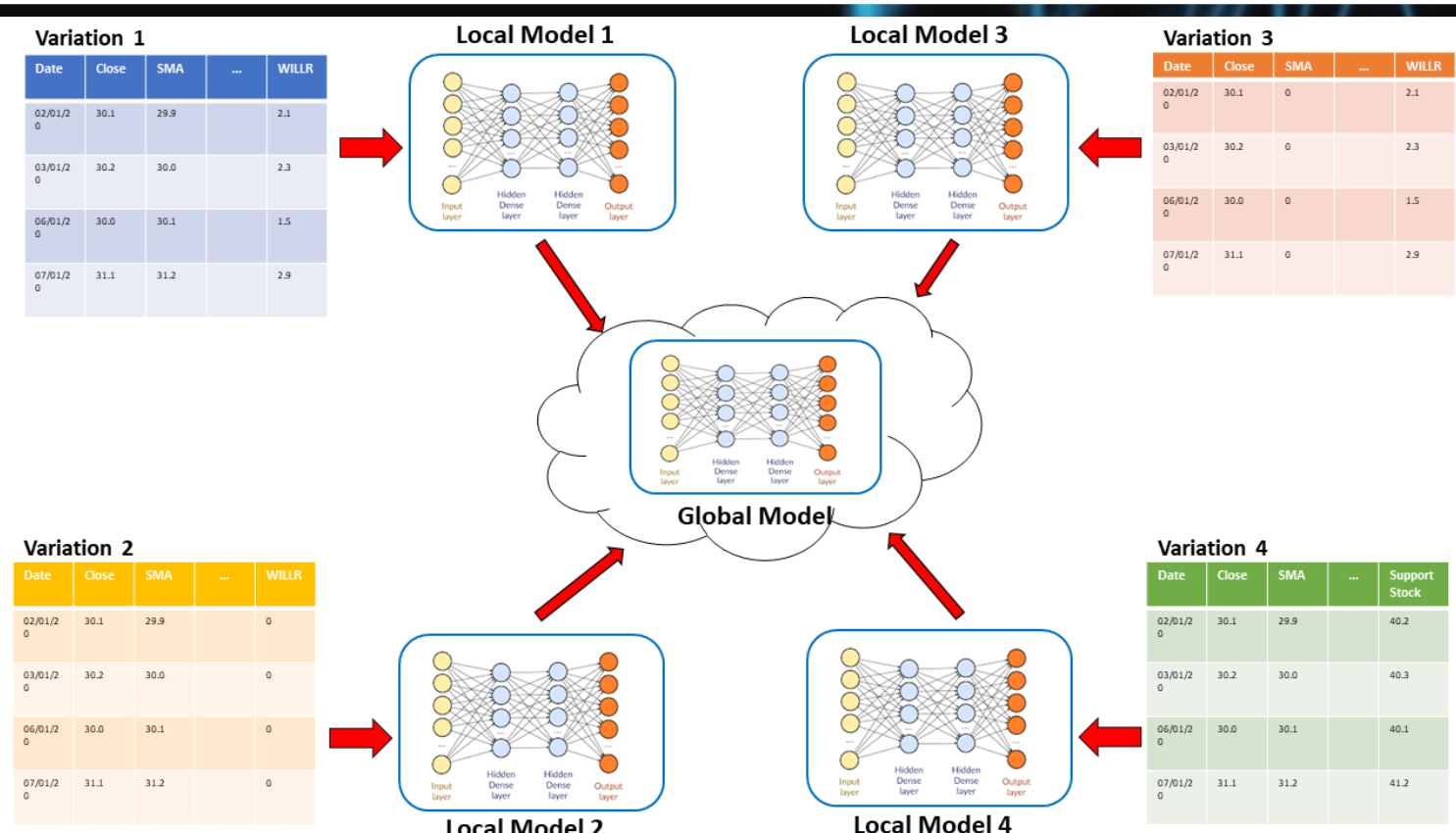
This project aims to deepen our understanding of the effects of introducing certain types of variations to the training data used to train the Deep Learning models towards the ability of the models to learn the task of stock trading action prediction.

PROJECT FINDINGS

The results obtained from the study, allowed us to better understand the effects of introducing certain types of variations to the training data of Deep Learning models towards their ability to learn the task of stock trading action prediction. In addition, we also learnt which variations, when introduced to the training data, are beneficial towards helping Deep Learning models better overcome the difficulty of solving the task of stock trading action prediction.



CONTRIBUTIONS OF FINDINGS TO FUTURE WORKS



The results of this study will be of assistance towards future studies, by providing insights on how to improve the training of Deep Learning models for stock market prediction tasks with the use of training data induced with variations beneficial towards helping the models better overcome the difficulty of learning. A Federated Learning system can also utilize the findings of this project to train a network of Deep Learning models, each trained on a set of training data with a specific variation, which then updates the global model, resulting in a system with improved performance for stock market predictions.