

Stock Market Prediction using Bayesian Optimized K-Nearest Neighbor

Zahra Malwi

Paril Ghori

Abstract – Stock markets are complex systems due to their non-stationary nature, as the parameters are constantly changing, such as economic conditions and changes in company policy. This paper proposes a model based on Bayesian optimized K-Nearest Neighbor (KNN) for the price prediction of New York stock Exchange. Different configurations of KNN are tested using a six years series (January 2010 to December 2016). Three attributes of dataset; open, high and low values are used for the input of the KNN. The results show a good behaviour of Bayesian optimised KNN with low-performance errors in both learning and prediction.

Keywords – Bayesian Optimization, KNN, ORCL.