

1135-VN-2745 **Abdul Hasib Rahimyar*** (rahimyar001@connect.wcsu.edu), 181 White Street, Danbury, CT 06810, **Hieu Nguyen** (nguyen084@connect.wcsu.edu), 181 White Street, Danbury, CT 06810, and **Xiaodi Wang** (xiaodiwang1@yahoo.com), 181 White Street, Danbury, CT 06810. *Stock Forecasting Using M-Band Wavelet Based Machine Learning Methods.*

The task of predicting future stock values has always been one that is heavily desired albeit very difficult. This difficulty arises from stocks following non-stationary behavior, and thus predictions are best made through analysis of historical stock data rather than through an explicit function. To handle big data sets, current convention involves the use of the Moving Average. However by utilizing the Wavelet Transformed stock signals instead of original stock data or Moving Average-altered data, financial data can be smoothed and more accurately broken down. This newly transformed and more stable stock data set can be followed up by non-parametric statistical methods, such as Principal Component Analysis (PCA), Support Vector Regression (SVR), Correlation and Regression Tree (CART), and Logistic Regression to predict future stock movement. Through the implementation of this method, one is left with a more accurate stock forecast, and in turn, increased profits. (Received September 26, 2017)