Literatur review and learnings

#	authors	source	approach	results	modelling	data	notes
1	A. Atkins, M. Niranjan, and E. Gerding	“Financial news predicts stock market volatility better than close price,” J. Financ. Data Sci., vol. 4, no. 2, pp. 120–137, 2018.	information extracted from news sources is better at predicting the direction of underlying asset volatility movement, or its second order statistics, rather than its direction of price movement.	the average directional prediction accuracy for volatility, on arrival of new information, is 56%, while that of the asset close price is no better than random at 49%	Latent Dirichlet Allocation (LDA) followed by naïve Bayes classification model used in this study	Reuters US news archive from 09-2011 to 09-2012	20 min time lag between release of news and quantifiable impact on markets
2	T. Matsubara, R. Akita, and K. Uehara	“Stock price prediction by deep neural generative model of news articles,” IEICE Trans. Inf. Syst., vol. E101D, no. 4, pp.	propose a deep neural generative model (DGM) of news articles to predict the price movements	The proposed model achieved the highest prediction accuracy among all of the models, as well as the most capable of earning a profit in our market simulations.	deep neural generative model for predicting daily stock price movements given news articles	historical datasets of Nikkei 225 (Nikkei Stock Average) and Standard & Poor’s 500 Stock Index, as well as related news articles	financial market is highly sensitive to specific events
3	E. Chong, C. Han, and F. C. Park	“Deep learning networks for stock market analysis and prediction: Methodology, data representations, and case studies,” Expert Syst. Appl., vol. 83, no. April, pp. 187–205, 2017.	assess the potential of deep feature learning as a tool for stock return prediction, and more broadly for financial market prediction	Applied to the Korean stock market, DNNs perform better than a linear autoregressive model in the training set, but the advantage mostly disappears in the test set.	deep feature learning-based stock market prediction model	data taken from the Korean KOSPI stock market	
4	Y. Xie	“Stock Market Forecasting Based on Text Mining Technology: A Support Vector Machine Method,” J. Comput., vol. 12, no. 6, pp. 500–510, 2017.	text mining and sentiment analysis on Chinese online financial news, to predict Chinese stock tendency and stock prices based on support vector machine (SVM)	when predicting the stock tendency, SVC is not good enough, though it also proves the importance of news documents.	Text mining and Support vector machine	20 sources covering the main Chinese online financial news fields; 20 Chinese stocks as testing data	News related to stock market is divided into 8 parts: financial capital news; civil economic news; industrial economic news; company news; international economic news; emerging market news; consumption news; financial news
5	O. B. Sezer, M. Ozbayoglu, and E. Dogdu	“A Deep Neural-Network Based Stock Trading System Based on Evolutionary Optimized Technical Analysis Parameters,” Procedia Comput. Sci., vol. 114, no. 2016, pp. 473–480, 2017.	propose a model that combines genetic algorithms and neural networks together in a stock trading system in such a way that, the features that are provided to the neural network are the optimized technical analysis buy-sell trigger points.	The results indicate that such a trading system produces comparable or better results when compared with Buy & Hold and other trading systems for a wide range of stocks even for relatively longer periods.	genetic algorithm and deep Multilayer Perceptron (MLP); use RSI values of the stock prices to determine the buy and sell points for stocks.	daily stock prices of Dow 30 stocks are obtained from finance.yahoo.com (1/1/1997 to 12/31/2006 training; 1/1/2007 to 1/1/2017 test)	Neural networks are among one of the most popular choices os stock trading systems.
6	A. Joseph, M. Larrain, and C. Turner	“Daily Stock Returns Characteristics and Forecastability,” Procedia Comput. Sci., vol. 114, pp. 481–490, 2017.	this study investigated the forecastability of stock returns (in S&P 500, DJIA, and NASDAQ composite) by inverted interest rate (in 3-month Treasury bills)	stock market prices and returns are highly correlated but that some are more highly correlated than others, and that this very strong correlation is even evident among noisy stock prices.		adjusted closing prices of the S&P 500, DJIA, ands NASDAQ composite obtained from the Yahoo! Finance website	Stock prices are a leading economic indicator of the United States of America’s (U.S.A.’s) economy; the changes in stock prices (or stock returns) are generally caused by the demand for stocks.
7	A. Jayanth Balaji, D. S. Harish Ram, and B. B. Nair	“Applicability of deep learning models for stock price forecasting an empirical study on bankex data,” Procedia Comput. Sci., vol. 143, pp. 947–953, 2018.	A deep learning approach to stock price forecasting	the ELM, LSTM model with 2 hidden layers (LSTM 2 Layer, CNN model with three hidden layers (CNN 3 Layer) and GRU model with three hidden layers (GRU 3 Layer) are capable of generating better forecasts	fourteen different models based on four different deep learning techniques: Long-Short Term Memory (LSTM), Gated Recurring Unit (GRU), Convolutional Neural Network (CNN) and Extreme Learning Machines (ELM)	closing price time series for the stocks in the S&P BSE- BANKEX index	
8	L. Evans, M. Owda, K. Crockett, and A. F. Vilas	“A methodology for the resolution of cashtag collisions on Twitter – A natural language processing & data fusion approach,” Expert Syst. Appl., vol. 127, pp. 353–369, 2019.	detection and resolution of colliding cashtags on Twitter. Train traditional supervised machine learning algorithms twice on each tweet to classify if a tweet relates a specific exchange-listed company or not.	results show that the top performing classifiers, in respect to their MCC score, are LR and SVM, both of which perform significantly better when considering additional features granted by the company corpora.	Logistic Regression, K-Nearest Neighbours, Support Vector Machine, Naïve Bayes, Decision Tree, and Random Forest classifiers	86,539 tweets, company-specific information from Reuters, Alpha-Vantage will be used to create company-specific corpora	Investors make use of many online discussion channels when deciding to make investments on stock markets; Twitter has become a popular platform for investors to disseminate stock market information and discussion
9	L. C. Yu, J. L. Wu, P. C. Chang, and H. S. Chu	“Using a contextual entropy model to expand emotion words and their intensity for the sentiment classification of stock market news,” Knowledge-Based Syst., vol. 41, pp. 89–97, 2013.	A contextual entropy model is proposed to expand a set of seed words by discovering similar emotion words and their corresponding intensities from online stock market news articles.	the use of the expanded emotion words improved classification performance, which was further improved by incorporat- ing their corresponding intensities.	contextual entropy model	6888 stock market news articles were collected from YAHOO!News	Textual data, such as stock market news articles, may affect investor decisions, and is thus another impor- tant factor affecting share prices