Bibliography

- [1] William F Sharpe. "The arithmetic of active management". In: *Financial Analysts Journal* 47.1 (1991), pp. 7–9.
- [2] Eugene F. Fama. "Random Walks in Stock Market Prices". In: Financial Analysts Journal 51.1 (1995), pp. 75–80. DOI: 10.2469/faj.v51. n1.1861. eprint: https://doi.org/10.2469/faj.v51.n1.1861. URL: https://doi.org/10.2469/faj.v51.n1.1861.
- [3] Sepp Hochreiter and Jürgen Schmidhuber. "Long short-term memory". In: *Neural computation* 9.8 (1997), pp. 1735–1780.
- [4] Tin Kam Ho. "Random decision forests". In: *Proceedings of 3rd international conference on document analysis and recognition*. Vol. 1. IEEE. 1995, pp. 278–282.
- [5] Richard J Teweles and Edward S Bradley. *The stock market*. Vol. 64. John Wiley & Sons, 1998.
- [6] Trefis Team. NYSE May Be Bigger, But Nasdaq Is Growing Faster. Sept. 2019. URL: https://www.nasdaq.com/articles/nysemay-be-bigger-but-nasdaq-is-growing-faster-2019-09-17.
- [7] Steven B Achelis. *Technical Analysis from A to Z.* 2001.
- [8] James C. Van Horne and George G.C. Parker. "The Random-Walk Theory: An Empirical Test". In: *Financial Analysts Journal* 23.6 (1967), pp. 87–92. DOI: 10.2469/faj.v23.n6.87. eprint: https://doi.org/10.2469/faj.v23.n6.87. URL: https://doi.org/10.2469/faj.v23.n6.87.
- [9] Barine Michael Nwidobie. "The Random Walk Theory: An Empirical Test in the Nigerian Capital Market". In: *Asian Economic and Financial Review* 4.12 (2014), pp. 1840–1848. URL: https://EconPapers.repec.org/RePEc:asi:aeafrj:2014:p:1840–1848.

- [10] Christopher M Bishop. *Pattern recognition and machine learning*. springer, 2006.
- [11] Corinna Cortes and Vladimir Vapnik. "Support-vector networks". In: *Machine learning* 20.3 (1995), pp. 273–297.
- [12] Jigar Patel et al. "Predicting stock and stock price index movement using trend deterministic data preparation and machine learning techniques". In: *Expert systems with applications* 42.1 (2015), pp. 259–268.
- [13] David MQ Nelson, Adriano CM Pereira, and Renato A de Oliveira. "Stock market's price movement prediction with LSTM neural networks". In: 2017 International joint conference on neural networks (IJCNN). IEEE. 2017, pp. 1419–1426.
- [14] Yahoo Finance Stock Market Live, Quotes, Business & Finance News.

 URL: https://finance.yahoo.com/.
- [15] Fabian Pedregosa et al. "Scikit-learn: Machine learning in Python". In: *the Journal of machine Learning research* 12 (2011), pp. 2825–2830.
- [16] François Chollet et al. *Keras*. https://keras.io. 2015.

Appendix A

Classifier hyper-parameters

LSTM	Layers	LSTM(50 units), Dropout(40 %)
	Optimizer	Adam
	Epochs	10
	Loss	Binary cross entropy
	Batch size	1
	Stateful	True (state was reset after each epoch)
Random Forest	Estimators	30
	Max height	None
	Min samples split	2
	Min samples leaf	1
	Max features	auto
	Max leaf nodes	None
	Criterion	Gini
SVM	Gamma	auto
	Kernel	Polynomial
	Degree	1
	Penalty	1
	Shrinking	True