NATIONAL UNIVERSITY OF SINGAPORE

Master's of Computing (General-Track)

Alpha Tree Search and Machine Learning Approaches to Optimising Real Estate Portfolios

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ABSTRACT

An internal project about applying genetic algorithm to search for optimal alphas. State the major contribution:

DECLARATION

I hereby declare that this project report is my original work and it has been written by me in its entirety. I have duly acknowledged all the sources of information which have been used in this report.

This report has also not been submitted for any degree in any university previously.

ACKNOWLEDGEMENT

I would like to thank Professor Liu Lili for her guidance, support and encouragement throughout the course of this project. Working with Professor Lili has been a great learning experience, getting to learn much more about machine learning and its applications to finance in solving some challenges faced by industry practitioners.

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INTRODUCTION

The saying goes that once a profitable trading strategy has been discovered and traded on by enough people, its profits will be eroded away and it will cease to be profitable. Traders and investors appear to be playing a never-ending game of "Hide-and-Seek" in search of profitable trading formulas. Due to the increasingly dynamic nature of the financial markets, traditional financial time-series forecasting models which are static in nature are becoming less effective than machine learning models in picking the best investments (Sheth & Shah, 2023).

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REFERENCES

Sheth, D., & Shah, M. (2023, February). Predicting stock market using machine learning: best and accurate way to know future stock prices. *International Journal of System Assurance Engineering and Management*, *14*(1), 1–18. Retrieved 2024-04-07, from https://link.springer.com/10.1007/s13198-022-01811-1 doi: 10.1007/s13198-022-01811-1