



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

PHD STUDENT SEMINAR

Integrated Genetic Algorithm for Financial Trading

By

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Abstract

This work proposes an innovative approach that combines genetic algorithms (GA) with quantitative trading simulation processes to optimize a multilayer perceptron (MLP) model for stock price prediction and quantitative trading strategies. Our methodology involves thorough feature engineering and the utilization of a sigmoid function on the target label. The key contribution lies in integrating back-testing criteria and environmental parameters into the GA framework during the training, testing, and optimization phases of the MLP model. Our work aims to integrate genetic algorithms and trading simulation to enhance stock price prediction and optimize quantitative trading strategies. Through extensive experimentation and optimization, our approach showcases improved accuracy and robustness in stock price prediction, underscoring the effectiveness of incorporating historical data evaluation within GA algorithms for training MLP models within quantitative trading contexts.

Date : 28 May 2024 (Tuesday)

Time : 10:30am

Venue : Room 1410 (Lifts 25-26)

All are Welcome!