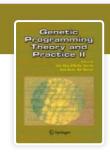
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Genetic Programming Theory and Practice II pp 11-30

Home > Genetic Programming Theory and Practice II > Chapter

Discovering Financial Technical Trading Rules Using Genetic Programming with Lambda Abstraction

Tina Yu, Shu-Heng Chen & Tzu-Wen Kuo

Chapter

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Abstract

We applied genetic programming with a lambda abstraction module mechanism to learn technical trading rules based on S&P 500 index from 1982 to 2002. The results show strong evidence of excess returns over buy-and-hold after transaction cost. The discovered trading rules can be interpreted easily; each rule uses a combination of one to four widely used technical indicators to make trading decisions. The consensus among these trading rules is high. For the majority of the testing period, 80% of the trading rules give the

same decision. These rules also give high transaction frequency. Regardless of the stock market climate, they are able to identify opportunities to make profitable trades and outperform buy-and-hold.

Keywords

modular genetic programming

lambda abstraction modules

<u>higher-order functions</u>

financial trading rules buy-and-hold

S&P 500 index

automatically defined functions

PolyGP system stock market

technical analysis

constrained syntactic structure

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