

Student Research Seminar

Complex Trading Strategy Based on Particle Swarm Optimization

Mr Wang Fei

Date:

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Friday

2:00 pm

Venue:

Room 308

Chow Yei Ching Building

The University of Hong Kong

Abstract:

Trading rules have been utilized in the stock trading market to make profit for more than a century. However, only using a single trading rule is not sufficient to predict the stock price trend. Although some complex trading strategies combining different class of trading rules are proposed, they only include one rule for a class, which may lose information from other combinations of different class of rules. In this paper, we propose a complex trading strategy combining the two of the most popular trading rules – Moving Average and Trading Range Break-out. For each of the class, we include different combinations of the rule parameters to get a universe of 140 trading rules in all. Each rule is assigned a start weight and a self-adaptive reward system according to profit is proposed to modify these rules' weights during trading. To get the appropriate combination of the start weights and reward system, a time variant Particle Swarm Optimization (PSO) algorithm is used to optimize the proposed complex trading strategy in terms of the annual net profit. The experiments show that the proposed complex trading strategy outperforms the best Moving Average and Trading Range Break-out rules after optimization using PSO.

About the Speaker:

Wang Fei is a full-time MPhil Student in the Department of Computer Science, The University of Hong Kong. His Supervisors are Professor David Cheung and Dr. Phillip Yu. His research interest is trading rules and particle swarm optimization.

All are welcome!
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