Abstract

Recent financial researches showed that technical indicators are useful tools for stock prediction. Technical indicators are used to generate trading signals (buy/sell) signals. The main problem of an indicator usage is to determine its appropriate parameters. In this paper a new GA based technique for optimizing the parameters of a collection of technical indicators over two objective functions Sharpe ratio and annual profit is proposed. The technique handles four indicators DEMAC (Double Exponential Moving Average Crossovers), RSI (Relative Strength Index), MACD (Moving Average Convergence Divergence), and MARSI (Moving Average RSI) indicators. The technique was tested on 30 years of historical data of DJIA (Dow Jones Industrial Average) stock index. Results showed that the optimized parameters obtained by the proposed technique improved the profits obtained by the indicators with their typical parameters, the Buy and Hold strategy and the random strategy.
Multi-objective Optimization of Technical Stock Market Indicators using GAs

- Lohpetch, D, David Corne. Multiobjective algorithms for financial trading: Multiobjective out-trades single-objective. In proceeding of: Evolutionary Computation (CEC), 2011 IEEE Congress on
Index Terms

Computer Science
Artificial Intelligence

Keywords

Technical Analysis  Genetic Algorithms  Parameter Optimization