



## **ABSTRACT**

Title of Thesis: Besting Dollar Cost Averaging Using A Genetic Algorithm  
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Degree and Year: Master of Science, 2003  
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This project compares mechanical stock market investment strategies derived using genetic algorithms with the classic mechanical dollar-cost averaging investment method. The genetic algorithm created in this effort uses the price histories of sample stocks along with fictional investment capital and transaction costs to evolve strategies that produce return on investment values that exceed those of dollar-cost averaging. These derived strategies offer buy, sell and hold advice for application to current stock price changes. Statistical analysis shows that these strategies are successful over a majority of tested cases in producing greater return on investment values than dollar-cost averaging, and therefore that the genetic algorithm evolved strategy model may take its place as a preferred alternative to dollar-cost averaging.

**BESTING DOLLAR COST AVERAGING USING  
A GENETIC ALGORITHM**

By

James Richard Maxlow

Thesis submitted to the Graduate Faculty of  
Christopher Newport University in partial  
fulfillment of the requirements  
for the degree of  
Master of Science  
2003

Approved:

David Hibler, Chair

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Antonio Siochi

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## ACKNOWLEDGEMENTS

This project could not have been brainstormed, undertaken, or successfully completed without the assistance of several people. The author would like to thank Dr. David Game and Dr. Antonio Siochi of the thesis committee for their guidance and advice through actual work of the project as well as the knowledge they imparted over the course of several years worth of computer science courses. The author is also grateful to Dr. David Hibler, chair of the thesis committee, for his guidance during the project and for the introduction of the author to the concepts and foundations of genetic algorithms and artificial intelligence.

Finally the author would like to thank Lyn Sawyer, the Associated Director of Graduate Admissions and Records at Christopher Newport University, for her unwavering support throughout the graduate program and for her efforts to answer every question the author had.

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