

ANDREW CHARLES HAWKINS

CONTACT INFORMATION

3874 Esplanade Ave.
Port Orange, FL 32129

hawkinsandrewc@gmail.com
(561) 339-4065

RESEARCH INTERESTS

Quantitative finance, optimization, probability theory, machine learning, game theory, scientific computing, and data analysis. Currently, I am working on problems in predictive models of securities.

EDUCATION

Embry-Riddle Aeronautical University (ERAU), Daytona Beach, FL *August 2010 – December 2013*

Bachelor of Science in Computational Mathematics

- Area of Concentration: Computer Science
- Thesis: *A New Diophantine Approach for the Origin of Structures in the Universe*
- Adviser: Dr. Andrei Ludu

SELECTED HONORS

- McNair Scholar (2013)
- Shrinivas Dalal Memorial Scholarship in Mathematics (2013)
- ERAU Achievement Scholarship (2010, 2011, 2012, 2013)
- National Society of Collegiate Scholars (2011)
- Dean's List Standing (2010, 2011, 2012, 2013)
- Eagle Scout in the Boy Scouts of America (2010)
- National Honor Society (2009)

RESEARCH EXPERIENCE

Mathematics: Quantitative Finance

August 2010 – present

- Studies the effect of dynamic volatility when modeling derivatives.
- Works on statistical analysis of financial price data.
- Develops quantitative analysis tools to determine high probability price movements.
- Models historical data with techniques such as multiple linear regression and distribution fitting.

Mathematics: Operations Research

January 2013 – May 2013

- Researched modeling techniques to optimize course deviations of a cargo ship.
- Minimized the maneuver completion time by a logical construction model.
- Explored techniques including spline interpolation.

Engineering: Vehicle Dynamics

August 2010 – June 2011

- Modeled the interaction between the electric and internal combustion engines of the ERAU Formula Hybrid vehicle.
- Designed aerodynamics components of the vehicle's body.

PROFESSIONAL EXPERIENCE

Teaching Assistant for MA 305: Introduction to Scientific Computing *August 2013 – December 2013*

- Assists professor with lab discussions and instructs students.

Founder of Hawkmatix.com

July 2012 – present

- Develops and publishes open source financial analysis and trading software with documentation.

Grader for MA 412: Probability and Statistics

August 2012 – May 2013

- Evaluated papers for content and correctness.

PUBLICATIONS

Andrew Hawkins and Andrei Ludu. *A New Diophantine Approach for the Origin of Structures in the Universe*. In preparation (2013).

Andrew Hawkins and Timothy Smith. *An Economic Regression Model to Predict Market Movements*. In preparation (2013).

SELECTED TALKS

Exploring the Fisher Z-Transformation with Applications in Finance. Undergraduate Mathematics Conference, Embry-Riddle Aeronautical University, Daytona Beach, FL, U.S.A. (2013)

COMPUTER PROFICIENCIES

Programming and Typesetting

- Fortran, Java, C#, Gnuplot, MATLAB, *Mathematica*, R, \LaTeX

Web Development

- HTML, PHP, CSS

Other Software

- Eclipse, NinjaTrader, CATIA