

DAYNE J. FERNANDEZ

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EDUCATION

NEW YORK UNIVERSITY COURANT New York, NY

The Courant Institute of Mathematical Sciences

MS in Mathematics in Finance (September 2019 – December 2020) (GPA: 3.7)

- **Coursework:** Software development for finance, portfolio theory, market structure, optimal execution, dynamic programming, risk management

UNIVERSITY OF CALIFORNIA – LOS ANGELES Los Angeles, CA

BS in Mathematics (September 2014 – May 2018) (GPA: 3.8)

- **Coursework:** Multivariable calculus, differential equations, real and complex analysis, probability and statistics, computational statistics, advanced programming in C++

PUBLICATIONS & PROJECTS

NEW YORK UNIVERSITY COURANT New York, NY

High Frequency Data Portfolio Project (February – May 2020)

- Processed three months' worth of high frequency trades and quotes data for over 500 stocks
- Implemented a portfolio optimization algorithm, controlling for risk and market impact
- Determined optimal execution parameters using stochastic control theory
- Focused on writing optimized, efficient Python code to process the data quickly and accurately

UNIVERSITY OF CALIFORNIA – LOS ANGELES Los Angeles, CA

Modeling Environmental Crime in Protected Areas Using the Level Set Method (June – August 2017)

- Developed general mathematical model to analyze environmental crime and patrol strategies
- Applied game theoretic concepts and PDE solving methods to optimize crime prevention
- Implemented model in MATLAB to create ~30 example cases for use in academic paper
- Published in SIAM Journal on Applied Mathematics

SOTEIRA CAPITAL Las Vegas, NV

Python Program to Track Trades and P&L (June – September 2016)

- Compiled a spreadsheet to list trades and track P/L for specific securities for a trading account
- Wrote a Python script to automatically update spreadsheet daily by reading and writing trade data
- Implemented “security” and “trade” as classes in Python, saved each trade and security as an object to format the data and calculate new P/L
- Generalized code to store different security types (stocks, options, futures) simultaneously

WORK EXPERIENCE

UNIVERSITY OF CALIFORNIA – LOS ANGELES Los Angeles, CA

Undergraduate Researcher (June – August 2017)

- Developed general mathematical model to analyze crime and patrol strategies in national parks
- Assisted NGA refining patrol strategies to protect most densely forested 5%-10% of national parks
- Collaborated as part of a team of undergraduate students, graduate students, and professors
- Implemented model in MATLAB to create ~ 30 example cases for use in further research

SOTEIRA CAPITAL Las Vegas, NV

Hedge Fund Internship (June – September 2016)

- Assisted manager with portfolio building, ~ \$300M AUM, by executing orders for long and short positions in the 1K-10K volume range
- Researched positions by tracking securities' price differentials and monitoring financial news
- Implemented algorithm to compute maximum profit and loss on option positions

COMPUTER SKILLS/OTHER

Programming Languages: Proficient: Python, C++, Java, R **Experience with:** MATLAB, SQL