DAVID FITZPATRICK

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GitHub: https://github.com/Davidfdaf/David_Personal_Projects

SKILLS

- Coding: Python for nonlinear regression and neural networks, writing functions to value derivatives such as a fixed for fixed currency swap, time series visualization, Monte Carlo simulations.
    - NumPy, Pandas, Scikit-Learn, C++, MATLAB for heat & mass transfer modeling, R for statistical analysis.
- Statistics: Discrete and continuous random variable and their probability distributions, multivariable probability distributions, sampling, and central limit theorem.

FIELD EXPERIENCE

Director of Performance **Fall 2019-Spring 2020**
Student-Managed Investment Fund, Univ. of Maine Orono, Maine

- Monitored macroeconomic risks to guide asset allocation for $3M portfolio
- Recommended replacing Halliburton with Atlantica Yield turning a potential 50% loss into a 47% gain
- Lead a two-member team to perform risk and expected return analysis
- Set the benchmark for the portfolio and backtested portfolio
- Awarded certificate of Recognition for work in this leadership role

Research Analyst - Energy Sector **Fall 2018-Fall 2019**
Student-Managed Investment Fund, Univ. of Maine Orono, Maine

- Pitched investment ideas based on analysis of company fundamentals

RECENT WORK EXPERIENCE

Technical Paper **Spring 2020-Summer 2020**

- Doe, S. W., Seekins, T. R., Fitzpatrick, D., Blanchard, D, Sekeh, S.Y., Adaptive County Level COVID-19 Forecast Models: Analysis and Improvement.

Maine Learning Assistant **Fall 2019-Spring 2020**
Physics Department, Univ. of Maine Orono, Maine

- Teaching assistant for calculus-based physics course. Implemented inquiry-based teaching methods.

Research Assistant **Summer 2019**
Physics Department, Univ. of Maine Orono, Maine

- Measured dimensions of pulses to determine if traveling through liquid crystal affected shape
- Separated background noise from data to allow for full width at half max measurements

EDUCATION

Master's in Mathematical Finance **Starting Spring 2021**
University of York, UK, online

- Currently in probability pre-session course

B.S. in Engineering Physics, Minors in Math and Mechanical Engineering **Grad date: May 2020**
University of Maine Orono, Maine

- Univ. of Maine Dirigo Merit Scholarship (top 1/8th of ACT scores)
- 3.4 GPA (2018-present), 3.1 GPA (total)
- Dean's list: Fall 2019, Spring 2020
- Advanced Topics in Computer Science (Graduate Course in Machine Learning)
- Maine Space Grant Consortium award to model a hybrid air separation process
- Member of National Physics Honors Society