SCOTT TURRO

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EDUCATION

University of Illinois at Urbana-Champaign Expected Graduation: May 2022
Bachelor of Science in Statistics. Minor in Physics, Mathematics, and Computer Science *GPA: 3.7/4.0*

PROFESSIONAL EXPERIENCE

Magnetar Capital **Evanston, IL**
Part-Time Analyst *March 2021 – Present*

- Streamlined the process of collecting portfolio data from external and internal SQL databases using pandas
- Visualized the contents of portfolios in an Excel dashboard so senior analysts could evaluate the investment
- Ported an Excel model into Python that calculates the internal rate of return of Collateralized Debt Obligations
- Collaborated with a cross functional team to retrieve the cash flow of the individual loans
- Automated the calculation and storage of financial earnings using the pro forma method to run every night

Kwiat Research Group **Urbana, IL**
Undergraduate Researcher *November 2018 – August 2021*

- Independently redesigned Python code that uses MLE to reconstruct quantum states from measurement data
- Automated the testing of several settings which account for experimental errors
- Published the package on PyPI, providing access to over a thousand Python developers
- Envisioned, purposed, and produced a documentation site and lead a new team member to help with the project
- Investigated Bayesian MCMC methods with a doctoral student to improve the algorithm for small data scenarios

Qubitekk, Inc **Remote**
Research and Development Intern *May 2021 – August 2021*

- Created a numerical method to find the optimal settings for a laser with 97.75% less measurements than before
- Translated a mathematical algorithm into python that aligns an optical system based on output measurement data
- Simulated the devices to back test the software due to limited access to the devices
- Searched for inefficiencies by visualizing performance vs settings using ggplot2 in R and Matplotlib in Python

ACTIVITIES AND AWARDS

Q-Munity Hack-Q-Thon - 1st Place Individual *May 2021*

- Employed quantum algorithms for portfolio construction and optimization

JP Morgan's Code for Good Hackathon – 1st Team Place Team *Sep 2020*

BPA Fundamentals of SQL– 2nd Place Individual *Feb 2018*

US Congressional App Contest – 1st Place Individual *Jan 2018*

- Programmed a Java app to simulate a Waterful Ring Toss game on the iPhone using a custom physics engine
- Demonstrated the incorporation of hydrodynamic drag and gyroscope sensing to congressman on Capitol Hill

PROJECTS

Classification of Covid-19 Chest X-Rays *Fall 2021*

- Used convolutional neural network in PyTorch to recognize features of covid-19 in chest x-rays with 90% accuracy

Honors Individual Study *Fall 2021*

- Utilized gibs sampling and latent class variables in a team to cluster students based on their test performance
- Used Monte Carlo Simulations to analyze the accuracy of the python algorithm

Effective Roles in the 2013 NBA Season *Fall 2021*

- Used cluster analysis on NBA players to showcase 2 different playing styles and 3 different levels of skill
- Analyzed the makeup of different teams and made suggestions for what types of players to pick up in the draft

Default of Loans from the Small Business Administration *Spring 2021*

- Created an R shiny app with 4 other students which visualizes data on loans given out to Small Businesses
- Presented the impact of location, the recession, and job retention on the loans' default rate

SKILLS AND INTERESTS

- **Data Science:** R || LaTex || Markdown || Excel || Jupyter || Colab || Pandas || Neural Networks || Optimization
- **Numerical Analysis:** Curve Fitting || GLM || Clustering || Bayesian Inference || Monte Carlo Simulation