SCOTT TURRO

708-308-6203 ● turroscott@gmail.com ● [Personal Website](#) ● [LinkedIn](#)

EDUCATION

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

PROFESSIONAL EXPERIENCE

Magnetar Capital **Evanston, IL**
Part-Time Analyst *March 2021 – March 2022*
- Documented the algorithm behind an Excel model which calculates Collateralized Debt Obligations (CDO) returns
- Recoded the model into python and optimized the operations using Numpy and Pandas
- Maintained and visually enhanced the Excel dashboard which displays details of the CDO portfolios
- Formulated a Python class which routinely calculates and saves each firm's liquidity projections to a SQL database
- Managed the Python environment using Pipenv and aided non-technical team members with updates and issues
- Directed an external team to make design changes to ensure their cash flow model can be utilized in our project

Kwiat Research Group **Urbana, IL**
Undergraduate Researcher *November 2018 – August 2021*
- Independently redesigned Python process into a documented library that uses MLE to analyze lab data
- Published the library on PyPI, providing over a thousand Python developers access to the code
- Ensured production-ready code by using Github actions for testing and Gitflow for version control
- Constructed test simulations to ensure experimental errors can be accurately accounted for
- Utilized Monte Carlo Simulations to offer error estimates on the outputs
- Envisioned and purposed a new Flask website which utilizes the code in online apps and explains the algorithm
- Trained a new member on the project and oversaw the development of an automated documentation process
- Researched the pros/cons of Bayesian methods with a doctoral student to improve the algorithm
- Presented research papers to keep the group up to date on the rapidly evolving industry of quantum technology

Qubitekk, Inc **Remote**
Research and Development Intern *May 2021 – August 2021*
- Implemented a mathematical algorithm and caught a fundamental flaw before released to production
- Improved the process of analyzing a laser resulting in a 3% reduction in measurements needed for calibration
- Proposed 3 new strategies to the physics team to analyze the performance of optical systems in a faster way
- Consulted the software team on version control strategies to aid in the company's transition to Azure DevOps
- Collaborated with mentor weekly to research 8 topics such as python libraries to broaden our areas of expertise
- Visualized the output of optical systems using R and Python to search for inefficiencies

COMPETITIONS & AWARDS

Q-Munity Hack-Q-Thon – 1st Place Individual *Spring 2021*
- Devised and presented an interface to input the components of financial portfolios
- Used quantum optimization techniques from Qiskit to perform portfolio optimization

JP Morgan's Code for Good Hackathon – 1st Team Place Team *Fall 2020*
- Coordinated with team members to prototype a social media platform for a non-profit organization
- Increased engagement and collaboration between participants and organizers of Girls in the Game
- Built the website in Flask and stored the data on Google Cloud using Firebase

US Congressional App Contest – 1st Place Individual *Spring 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

BPA Fundamentals of SQL – 2nd Place Individual *Spring 2018*
- Statewide competition which evaluated SQL skills through a written exam

IHSA Men's Gymnastics State Competition – 2nd Place Team *Spring 2018*
- Lead warmups everyday as team captain and collaborated with an editor to create a hype video for the state meet

SKILLS

Data Science: Optimization || Deep Learning || Regression || Clustering || Data Wrangling & Visualization
Non-Technical: Communication || Creativity || Problem Solving || Collaboration || Strategic Planning

COURSEWORK

Honors Individual Study
Fall 2021
- Utilized MCMC and latent class variables to cluster students based on their test performance
- Programmed Monte Carlo Simulations to quantify the accuracy of the implementation in Python
- Used the algorithm to study datasets and showcased the findings to professors with 3 team members

Unsupervised Learning
Fall 2021
- Performed cluster analysis on NBA players to highlight 2 different playing styles and 3 distinct levels of skill
- Examined the makeup of different teams and made suggestions for what types of players to pick up in the draft

Fundamentals of Deep Learning
Fall 2021
- Determined if a chest x-rays exhibited covid-19 using convolutional neural networks with an accuracy of over 90%

Statistical Programming Methods
Spring 2021
- Created an R shiny app with 4 team members 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

INDEPENDENT PROJECTS

Indeed Job Posting Analysis
Spring 2022
- Web scraped over 1,000 Python/data related job descriptions to find out what skills employers are looking for
- Stored the data in an AWS Dynamo DB database for efficient storage and ability to expand in the future
- Created a dashboard in Power Bi to display what languages and experiences to highlight in personal resume

Stock Market Data
Spring 2021
- Designed a personal database to store daily stock prices and automatically retrieved missing data using an API
- Stored the data in a remote cPanel database so the API is not used in future queries

Task Manager
Fall 2019
- Developed a site that displays assignments for the week to increase organizational skills and time management
- Originally hosted the site on a Raspberry Pi and moved to cPanel to provide remote access
- Utilized this site throughout remaining 3 years of college and improved GPA by .52 points

INTERESTS

Business: Statistical Analysis || Technical Solutions || Presentation || System Design || Operational Research
Personal: Yoga || Quantum Computing || F1 Racing || Esports || Gardening