Ian D'Ambrosio

Software Engineer

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EDUCATION

Master of Science in Computer Science 2023 (exp)
Georgia Institute of Technology, Online
Specialization: Machine Learning

Bachelor of Science in Computer Science 2020
The Pennsylvania State University, University Park, PA GPA: 3.92
Elective Focus: Machine Learning and Big Data

EXPERIENCE

Microsoft Feb 2021 – present
Software Engineer Redmond, WA
- Worked on the software development and maintenance of high-speed low-latency **REST APIs** that handle the retrieval of large-scale micro-transactions and small-scale high-value transactions (**100k+ monthly transactions**) throughout Azure and Office 365

Microsoft May 2020 – Aug 2020
Software Engineer Intern Redmond, WA
- Saved thousands of dollars on server maintenance by migrating an approval web application to **Azure PaaS** services using **Azure functions**, **C#,** and **Azure SQL** development
- Generated a **2x speedup** in **Azure deployment pipelines** by researching and implementing a more secure and streamlined form of **Cloud Deployment** (CDPx)

The Pennsylvania State University May 2019 – Dec 2020
Learning Assistant University Park, PA
- **Helped over 1,000 students** learn the fundamentals of programming Data Structures as a Learning Assistant (undergrad TA) in CMPSC 132 (Python Programming Composition II: Data Structures)

Farotech Jun 2018 – Aug 2018
Front-end Developer Conshohocken, PA
- Fostered the successful collaboration of over **5 large Conshohocken businesses** by creating a main page for the Conshohocken Business Partnership
- **Doubled site traffic** by redesigning and optimizing a B2B survey funnel page for businesses to identify problems with their own websites and SEO

PROJECTS

Machine Learning Classification of Chess Openings
Python, Pandas, Numpy, sklearn, Jupyter Notebook
- Created a model-agnostic data pipeline to investigate model performance on classifying various Chess openings and reached **96% testing accuracy** through hyper-parameter optimization over multiple ML models such as **ANNs**, **SVMs**, and **Boosting**

Face Recognition using Principal Component Analysis
Python, Pandas, Numpy, Jupyter Notebook
- Wrote a paper detailing the theoretical and applied procedures in my own implementation of a facial recognition model using **Principal Component Analysis** in **Python** and **OpenCV 2**

Automated Algorithmic Options-Trading System
Python, Pandas, Numpy, BS4, Various Stock Data APIs
- Engineered an automated trading system that trades options using various algorithms to execute trades on a daily basis
- Reduced wall times for processing of options data on 100+ tickers from **9 minutes to sub-1 minute** times by implementing **multi-threaded web scraping** and **API calls** (such as Robinhood and TD Ameritrade)
- Created a structured **alert system** to track trading decisions and price activity on the retrieved options data

Private Stochastics Library
Python, Stochastic Processes & Probability Theory, Jupyter Notebook/Lab
- Created various Python modules to support the simulation of both continuous and discrete stochastic processes, statistical methods, and **Markov Chain Monte Carlo**
- Examples include **Markov chains**, multidimensional **Brownian motion**, **Metropolis-Hastings** sampling, and hypothesis testing

AWARDS

1st Place - Abington Competetive Programming Competition