Albert Xiao

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Education

University of Illinois Urbana-Champaign Champaign, IL

BS in Computer Science, Minor in Mathematics *Expected May 2024*

Relevant Coursework: Data Structures, Algorithms, Combinatorics, Discrete Structures, Multivariable Calculus, Linear Algebra, Single Variable Analysis, Machine Learning, Deep Learning, Web Development

Experience

Software Engineering Intern June 2021 – Aug. 2021

Accurant Biotech *Cranbury, NJ*

- Designed and implemented robust online training and inventory management system using Flask, HTML/CSS, JavaScript, and PostgreSQL
- Scoped and developed core functionalities for managing users, uploading/accessing training documentation, and tracking training/inventory
- Collaborated and user-tested with team of lab scientists to improve UI/UX and add QoL features

Software Developer Sept. 2021 – Present

Hack4Impact | Falling Fruit *Champaign, IL*

- Rebuilt and optimized front end of Falling Fruit progressive web application for improved scalability
- Created and styled several performance-oriented components using React and Redux
- Reworked type-filtering tree data structure for improved performance and utility

Undergraduate Researcher Sept. 2021 – Present

University of Illinois Urbana-Champaign *Champaign, IL*

- Created a leveraged ETF with optimal hedging scheme to generate a profitable trading strategy
- Developed automated trading bot in Python to implement this strategy into interactive brokers' trading platform
- Applied LSTM architecture to extrapolate stock data for backtesting platform

Resource Director June 2019 - June 2021

CSRemastered *West Windsor, NJ*

- Redesigned curriculum, improved education experience, and tutored students in Java and Python
- Partnered with HomeFront Charity to tutor underprivileged children displaced by Covid-19

Skills/Awards

Languages/Technologies: Java, Python (Flask, NumPy, Pandas, PyTorch, OpenCV), C++ (OpenGL, Catch2), SQL (Postgres, SQLite), JavaScript (Node.js, Express.js, React.js, Redux), HTML/CSS, Docker, Git

Awards: USA Computing Olympiad Platinum Division, Cornell Programming Contest Second Place, AIME Qualifier

Projects

Randomized Maze Game | *C++ (OpenGL, Catch2)* Nov. 2021

- Blueprinted and developed interactive game with graphical user interface using C++ and OpenGL
- Managed team of developers using Github for version control, feature assignment, and code review
- Designed and wrote an abstracted, objected oriented codebase for other developers to build upon
- Implemented randomized DFS for maze generation and BFS for shortest path for AI player

Passport Photo Generator | *Python, Node.js, HTML/CSS, OpenCV, Git* Sept. 2021

- Developed website interface to generate passport photo from any image
- Implemented face detection, image rotation, centering, and alignment using OpenCV
- Utilized U^2-Net deep learning architecture for salient object detection to remove background

MIT Battlecode | *Java* Jan. 2021

- Designed and implemented Artificial Intelligence using distributed algorithms to play real-time strategy game
- Improved, debugged, and tested algorithm over one month period