Matt Schwarz

mattschwarz.xyz | github.com/mjschwarz

EDUCATION

Vanderbilt University   May 2024

Majors in Computer Science and Medicine, Health, & Society; Minor in Economics   *Nashville, TN*
- GPA: 3.92 / 4.00
- SAT: 1570 / 1600 (Math: 800 / 800)
- Relevant Coursework: Artificial Intelligence, Virtual Reality, Social Networks, Operating Systems, Robotics

EXPERIENCE

Software Engineer II Intern   May 2023 - August 2023

Walmart Global Technology   *Bentonville, AR*
- Identified a business need for more rigorous e-commerce analytics through discussions with primary stakeholders
- Built a dashboard using Python and PostgreSQL, improving merchants' ability to analyze site performance
- Enhanced algorithms for three key performance indicators, increasing insight into actionable business opportunities

Software Engineer Intern   June 2022 - January 2023

Ricoh USA   *Remote*
- Developed programs to populate customer bundles with latest versions of software, reducing manual error
- Streamlined developers' project setup workflow using Groovy scripting to automate repetitive version control tasks
- Created automated testing builds using Jenkins, decreasing manual testing time per release by weeks

Research Assistant   August 2020 - May 2021

Active Galactic Nuclei   *Vanderbilt University*
- Collaborated with four team members in investigating supermassive black hole phenomena
- Analyzed spectral data sets of quasar observations by writing Python programs to perform curve fitting
- Generated spectral decomposition plots and other reports using specialized scientific packages

PROJECTS

Crypto Craze | *Python, Flask, JavaScript, React*
- Created a cryptocurrency which uses a proof of work consensus mechanism to maintain security
- Deployed a wallet app for viewing the blockchain and account balances, initiating transactions, and mining coins
- Managed a network of users using the publish-subscribe pattern to reduce data transmission overhead

Snake AI GUI | *Python, PyTorch, Pygame*
- Developed a Snake game that can be played by either a user or an artificial intelligence
- Implemented a Q-learning deep neural network using Pytorch, training the AI to reach scores of 60+ points
- Utilized caching to save the training model state, greatly reducing training time

Pathfinding Visualization GUI | *Python, Pygame*
- Designed an interactive application in which users place obstacles, select endpoints, and trace search paths
- Applied different search algorithms such as A*, BFS, and DFS to examine how each algorithm functions

LEADERSHIP AND EXTRACURRICULARS

Teaching Assistant   September 2021 – Present

Code Ignite   *Vanderbilt University*
- Taught ~10 middle school students computer science and problem-solving principles on a weekly basis
- Developed a Java curriculum for middle and high school students alongside club leadership

Vice President of Finance   October 2021 – November 2022

Beta Theta Pi   *Vanderbilt University*
- Managed fraternity funds in excess of $20,000 and established a balanced budget
- Navigated difficult personal finance conversations with brothers, instilling a culture of financial responsibility

SKILLS AND INTERESTS

Languages: Python, Java, C/C++, JavaScript, SQL
Tools and Frameworks: Git, PostgreSQL, Jenkins, Docker, React, Tailwind CSS
Interests: SCUBA diving, Weightlifting, Hiking (Eagle Scout)