

Ethan McPhee

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Education

Washington State University – Bachelor of Science in Computer Science, GPA: 3.86 December 2023

Work Experience

Teaching Assistant, Washington State University – Pullman, WA August 2023 – December 2023

- Developed a web based upload tool for course use in submitting live programming exams
- Led weekly C programming labs for 18 students, providing hands-on guidance in problem-solving
- Provided detailed feedback while grading for programming assignments, exams, and quizzes
- Conducted effective office hours, tutoring students on course material and assignments

Projects

Secure Banking Web Application

- Designed, developed, and deployed a security focused banking application in a team of 4
- Developed in Python using a Django back-end, HTML and CSS front-end, and a PostgreSQL database
- Implemented security features including MFA, geoblocking, two-person-integrity for large deposits and withdrawals, timed automatic sign-out, and AWS CloudWatch logging
- Applied Agile methodologies by working in sprints for streamlined collaboration and iterative development in the project, ensuring timely deliverables

Automated Torrent Integration with Plex Media Server

- Enables the easy addition of media to a local Plex server through a simple web interface by providing the magnet link and basic info about the added torrent
- User friendly front-end shows the status of all ongoing torrents, and allows for cancellation if needed
- Utilizes Docker networking and Gluetun to automatically torrent through a VPN to ensure privacy
- Automatically converts .mkv's to .mp4's using ffmpeg to ensure Plex can stream the files to any device

Sockets Layer File Transfer and Messaging App

- Created a command-line utility in Python using the socket module with a client-server architecture
- Implemented the transfer of files and instant messages between connected machines
- Designed a custom packet header to allow multiple files and instant messages to be sent simultaneously

Skills

Languages: Python, C, C++, C#, HTML, CSS, SQL

Other technologies: Git, Docker, Windows, Linux

Certifications: CompTIA Security+, Juniper Networks Certified Associate (JNCIA-Junos)

Activities

2023 CrimsonCode Hackathon Upper Division 2nd place

- Developed a web-based multiplayer build-your-own-story game in a team of 4, integrating OpenAI's GPT-3 model within the app to assist players in seamlessly crafting additions to the story

Member of ACM (Association for Computing Machinery), Student chapter