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Mason Menser

(425) 435-7029
Seattle WA

Education

Pullman, WA **Washington State University** **Fall 2022 – Spring 2026**

- B.S. Computer Science, Minor in History & Mathematics - Expected Graduation May 2026 - 3.8 GPA
- Recipient of WSU University Achievement Award and John W. and Anna M. Scott Fund for Academic Excellence scholarship.
- Coursework: Systems Programming; Databases; Algorithms; Data Structures; Computer Architecture; Software Engineering; Calculus III.

Experience

Embedded Research Assistant **WSU** **August 2024 - Present**

- Design and deploy an automated heat-controlled box for agricultural research, integrating Raspberry Pi, Arduino, LoRa wireless modules, and RTD temperature sensors.
- Develop a PID-style control algorithm in C++ to modulate a voltage transformer via stepper motors, maintaining real-time temperatures within ± 1.0°F of target.
- Architect a React and Flask web dashboard hosted on Raspberry Pi 4 using Nginx and Cloudflare Tunnels to enable secure remote monitoring and system command.

ML Research Assistant **WSU** **November 2025 – Present**

- Develop multilayer perceptron (MLP) models in PyTorch to predict bending stiffness from sandwich panel properties, achieving an R^2 of 0.95.
- Implement conditional variational autoencoder (VAE) models to generate geometric properties conditioned on bending stiffness, achieving an R^2 of 0.97 on reconstruction performance.
- Co-author a research manuscript, in collaboration with faculty & graduate researchers, based on experimental results, currently in draft.

IT Operations Intern **PACCAR Parts** **May 2025 - August 2025**

- Implemented a 3rd-party SaaS cloud printing application, allowing for native iOS printing and saving over $50,000 annually from more efficient and quicker printing.
- Wrote Powershell & Python scripts to automate the IT auditing of departments, reducing manual labor time by 30 minutes per audit.
- Monitored IT systems and processes of over 500 employees to ensure compliance with security standards and best practices.

Projects

- **MashWiki:** Full-stack web & iOS application that recommends Wikipedia articles using ML techniques including vector embeddings with OpenAI models & cosine similarity. Built with React Native and Node.js; deployed on AWS EC2.
- **P2P File Sharing:** CLI application that allows users to chat and share files on a LAN. Encrypted with TLS/SSL. Built with sockets in C/C++ on Linux.
- **C# Spreadsheet:** Developed a desktop application featuring a custom expression evaluator, cell dependency graphing, and XML-based persistence. Implemented Command Pattern for robust undo/redo functionality.

Languages and Technologies

- **Programming:** Python, C++, C, C#, SQL, TypeScript
- **Frameworks:** React, NodeJS, Express, Flask, React Native, HTML/CSS
- **Technologies:** UART, I2C, SPI, Arduino IDE, Raspbian, Git, GitHub, Linux, VS, VS Code, PostgreSQL