

Weijia Wu

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EDUCATION

University of Michigan

B.S.E. in Computer Engineering, Minor in Mathematics

GPA: 3.9

May 2026

Ann Arbor, MI

- **Relevant Coursework:** Data Structures and Algorithms, Computer Architecture, CPU Design, Embedded Systems, Signal Processing, Electronic Circuits, Logic Design, Robotic Mechanisms, Linear Algebra, Discrete Math
- **Awards/Leadership:** Michigan Community Student Leader, Richard Earhart Scholar, National Merit Finalist

EXPERIENCE

Amazon Web Services

May 2024 – August 2024

Software Development Engineering Intern

Austin, TX

- Developed generative AI agent using Claude3 Haiku to autonomously enrich IT tickets, analyzing similar past tickets, relevant logs, and other metrics to identify possible root causes and solutions with 76% accuracy
- Implemented search functions, API calls, and action groups, empowering AI agent to parse ticket pages and Amazon knowledge bases to extract additional information, saving on-call developers over 30 minutes per ticket on average
- Utilized retrieval-augmented generation, advanced prompting, and continuous learning to boost model accuracy by 85%

University of Arkansas

June 2021 – January 2022

Software Engineering Intern

Fayetteville, AR

- Enhanced machine learning algorithms for detecting cyber-security threats in Twitter tweets using Python, NumPy, Pandas, Keras, and other technologies, resulting in 94% reliability for evaluating potential threats
- Optimized encoding algorithms that improved both memory usage and runtime by over 50%, enabling program to process more data and save 5 minutes per test, leading to deployment one week ahead of schedule

PROJECTS

Out of Order R10K RISC-V Processor | *SystemVerilog, C*

April 2024

- Engineered high-performance processor architecture, integrating memory operations, cache systems, reservation stations, ROB, instruction queue, and more, enabling successful synthesis and execution of all compatible RISC-V programs
- Leveraged Simultaneous Multi-Threading, locks, and 2-way superscalar techniques to facilitate concurrent execution of multiple threads and programs with shared data, increasing instruction-level parallelism by over 65%
- Introduced numerous optimizations to processor, including tournament branch predictor, instruction prefetching, and 4-way set associative cache with victim cache, achieving clock period of 7.85 ns and average CPI of 1.05

Autonomous Shopping Cart | *C, I2C, SPI, PixyCam*

March 2024

- Engineered a fully autonomous shopping cart using C, I2C/SPI protocols, computer vision with PixyCam, and an advanced sensor suite, achieving 93% reliability for target user following and object avoidance in diverse environments.
- Implemented user tracking algorithms utilizing PixyCam target data, incorporating ultrasonic and infrared sensors to prevent collisions and provide secondary tracking, ensuring quick recovery in all tests when target was lost

Last Stretch Food Delivery Robot | *Python, Arduino, AutoCAD*

November 2022

- Designed and built autonomous navigational robot using Python and Arduino on MBot platform, successfully navigating the most efficient route to deliver food for 52 designated rooms on simulated dorm floor
- Integrated Python image recognition algorithm onto Arduino platform, enabling robot to autonomously detect human presence and avoid obstacles, reducing collisions by 90% and allowing robot to identify human presence

EXTRACURRICULAR

Michigan Hackers

September 2022 – Present

- Collaborated with open-source team to resolve 10 critical bugs in Home Assistant, addressing scalable design, integration conflicts, and automation inconsistencies, restoring functionality to 3 non-operational lighting features

UM Autonomous Robotic Vehicle

September 2022 – Present

- Pioneered edge-detection algorithms for path mapping and created image processing program with computer vision team to intelligently sort and eliminate redundant video frames, improving algorithm efficiency by over 80%

SKILLS

Languages: C/C++, SystemVerilog, Verilog, Python, Typescript, MATLAB, JavaScript, HTML/CSS, Bash/Shell, SQL

Technologies/Frameworks: AWS Services, LangChain, React, Git, Node.js, Ubuntu, ARM, FPGAs, STM32

Other Interests: Professional Piano Player (ARCT), SAT Club Founder, Local 5K Runs Volunteer, Varsity Swimmer