XIWEN WEI

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EDUCATION

University of Michigan, Ann Arbor   Ann Arbor, Michigan

B.E. in Electrical Engineering, **GPA**: 4.0/4.0   May 2023, Expected

Relevant coursework: Embedded System Design, Computer Architecture, Linear Algebra, Digital Signal Processing, Digital Integrated Circuit.

Shanghai Jiaotong University   Shanghai, China

B.E. in Electrical and Computer Engineering, **GPA**: 3.56/4.0   Sep 2019-Aug 2023

Relevant coursework: Analog Circuit, Electromagnetics, Logic Design, Probability and Statics, Signal and System, Programming and Data Structure.

ACADEMIC EXPERIENCE

University of Michigan, Ann Arbor   Ann Arbor, MI

Research Assistant, Advisor: Dr. David Blaauw   *May 2022 – Present*

- Worked in the "M3 Monarch Migration" team to build tiny sensors that can be placed on the butterflies and collect data to extrapolate the exact path of their migration.
- **Troubleshot** the crystal timer failure and reduced the sensors' error by **90%**. Calibrated a complementary timer by implementing and tuning a **PID** controller in the real system.
- Collaborated with researchers from **multiple disciplines** and presented to the team on a weekly basis to exchange ideas and solve unexpected problems.

University of Michigan, Ann Arbor   Ann Arbor, MI

Research team member, Advisor: Dr. Jingwen Hu, Dr. Monica Jones   *Jan 2022 – Present*

- Worked in a multi-disciplinary team on the "Development of parametric cervical spine models for mobility safety" project.
- Processed and landmarked medical images (CT, MRI scans) using image processing software (Mimics, Hyper Mesh) to quantify the 3D geometries of human skeleton and internal organs.
- Built statistical models of human geometry by MATLAB and conducted mesh morphing to change a baseline model into personalized geometry targets.
- Presented to the faculties and whole team on a weekly basis to exchange ideas of the research and solve unexpected problems.

University of Michigan, Ann Arbor   Ann Arbor, MI

Team member, Advisor: Dr. Robert Dick   *Jan 2022 – Apr 2022*

- Developed a "Liar's Dice" human-AI-interaction game with other two team members.
- Designed the user interface on LCD and implemented the SPI communication. Integrated the whole system by designing an FSM in **C**.
- Implemented the dice detection in **Python** using OpenCV to improve the user's game experience. Designed and implemented the **AI's** strategy algorithm.
- **Verified and debugged** the system using logic analyzer.

University of Michigan, Ann Arbor   Ann Arbor, MI

Research Assistant, Advisor: Dr. Mary-Ann Mycek   *Dec 2021 – Apr 2022*

- Worked with a PhD student on the "Development and optimization of an open-source toolkit for analysis of diffuse optical signals in biological media" project.
- Improved the computational speed in layered diffusion analysis for over **10%** by optimizing memory management.
- Implemented a benchmark CI tool to detect performance regression by adapting the package benchmarking tool for Julia package to this toolkit.
- Updated the user documentation to keep it consistent with software updates and corrected errors in current doc.

PROFESSIONAL EXPERIENCE

Soudronic (Guangzhou) Metal Packaging System Ltd.   Guangzhou, China

Electrical Engineer Internship   *Jan 2021 – Feb 2021*

- Built the power distribution system of 2 machines based on circuit diagrams to complete the orders.
- Customized a new component with a mechanical engineer to make the maintenance of machine easier and developed schematics of the component with Solidworks.
- Worked on a standard stock management system to enhance customer experience and increase sales.

Shanghai Jiaotong University   Shanghai, China

Teaching Assistant (General Chemistry)   *Sep 2020 – Dec 2020*

- Directed discussion class for over 30 students once a week to help them with their chemistry study.
- Collaborated with professors and co-workers to keep improving the teaching methods.

SKILLS

Technical: C, C++, Python, MATLAB, Verilog, Unix, Cadence, Julia.

Language: Chinese (native), English (proficient, GRE: 333 + 4.0, TOEFL: 107).