Yaxin Wang

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Skills

Languages/Technologies: C++, Python, React, HTML/CSS, JavaScript, MATLAB, C#, Raspberry Pi, Unity
Tools: SolidWorks, Figma, Excel, Word, PowerPoint, Git, ClickUp, Postman, Microsoft Office, BioPac

Experience

Undergraduate Research Assistant | Wireless Sensors and Devices Lab *May 2023 - Present*
- Responsible for collecting, labeling and processing radar data in MATLAB and Excel for Nature Journal publication
- Utilized **MATLAB** and radar technologies to detect heart and breathing rate through touchless wearable technology for an **IEEE publication** prepared in **LaTeX**
- In charge of **PCB bring-up**, programming, testing, and validation for a startup company called AquaSensing
- Set up and debugged **Raspberry Pi** software used for radar data collection

BCI Gaming Team Lead | WATOLINK Neurotech Design Team *September 2023 - Present*
- Contributed to **data collection** and **analysis** of EEG and EMG signals across three OpenBCI headsets, enhancing headset accuracy and **optimizing signal strength**, winning the NeuroTechX22 global competition
- Used **Python** and **C#** to integrate and process OpenBCI data into a computer game created using **Unity**
- Enhanced team productivity by overseeing **10+ core members** through effective task delegation and facilitation of regular meetings, ensuring consistent progress updates provided to WATOLINK directors on a monthly basis.

Biochemistry Student Researcher | University of Calgary *February 2020 - August 2022*
- Assisted a senior professor with research on the surface proteins and chemical interactions of COVID-19 using various biochemistry databases and **Excel** to perform calculations and analyze data in **pivot tables**

Co-President | Ignite Science Society *December 2019 - August 2022*
- Provided access to workshops, tutoring, and science lessons to over **500+ youth** in Alberta
- Oversaw a team of **20+ executive members**, and **50+ volunteers**, coordinating over **30+ events** across Alberta
- Raised **$300+** for local charities via organizing science fundraisers

Projects

***Quoted* Social Interaction Website** *December 2022 - April 2023*
Designed and developed an interactive journaling web application using **Figma**, **HTML/CSS**, and **React**. Utilized **Flask** framework in **Python** to implement features to store user journal entries, tested API using **Postman**.

Medi+Form *March 2023*
Developed Google Chrome extension using **Javascript** and **HTML/CSS**. Features include auto-filling online medical forms, "translation" of 50+ complex medical terms to basic English, and narration of medical terms. Collaborated with a team using **git source control**.

B-Mode Ultrasound Imaging *November 2022 - December 2022*
Program in **C++** that performs calculations on a B-Mode data file to generate beamform scanlines and produce an ultrasound image using the **OpenGL library**. Performed delay-and-sum beamforming calculations on multiple scanlines from the echo data given.

Wetsuit Prototype for Lower Limb Amputees *November 2022 - December 2022*
Designed a modified wetsuit prototype to help lower limb amputees engage in aerobic exercise. Used **agile methodologies** and various design procedures such as **Quality Function Development** and **Stakeholder Interviews** to develop the prototype

Education

University of Waterloo | Bachelor of Applied Science, Honours Biomedical Engineering *September 2022 - April 2027*
- Faculty of Systems Design Engineering: **4.0 GPA**, Term **Dean's Honors List**, President's Scholarship of Distinction
- **Relevant Courses:** Data Structures & Algorithms (C++), Digital Computation (C++), Matrices & Linear Systems (MATLAB), Introduction to Biomedical Design, Visual Communications (SolidWorks)