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EDUCATION
B.S. Electrical Engineering, Embedded Systems Concentration - University of Washington - Seattle, WA
Received: December 2023 - GPA: 3.36 - Deans List: Fall 2022, Spring 2023, Fall 2023

SKILLS
- **Java** (3+ years), **C/C++** (2+ years), **System Verilog** (1.5+ years), **Python** (1+ years), **JavaScript/TypeScript** (1+ years), **Rust** (1+ months)
- Tools: **React.js**, **Spark Java Framework**, **Django**, **Node.js**, **Arduino**, **CAD**, **JavaFX**, **GoogleTest**, **GNU**, **Linux**, **Windows**, **Bash**, **JUnit**, **Git**, **Maven**, **Gradle**, **Makefile**, **NPM**, **Yarn**, **Cargo**, **Springboot REST APIs**, **TensorFlow Framework**

WORK EXPERIENCE
Undergraduate Research Assistant | UW Ubiquitous Computing Lab | March 2023 – December 2023
- Researched, Designed, and implemented new assistive technology for users with musculoskeletal impairments.
- Using **CAD software**, I rapidly designed and produced **100+** prototypes of devices to aid users with multiple compounding disabilities in applying eye drops using **FDM 3D printers** and **Resin 3D printers** in a **clean lab environment**.
- Prepared documents, performed preliminary research, and searched for supporting information in preparation for additional projects related to different musculoskeletal impairments.

Undergraduate Software Engineer | UW S.E.A.L Lab | November 2022 – March 2023
- Worked in a team of 3 to develop a website for hosting an in-lab technical writing assistance application that was used by **125+** lab personnel.
- Using **JavaScript** and **React** I designed the structure of the home page, search page, and implemented the search engine
- Constructed and led 13 progress reports demonstrating to lab personnel including the director.

SAT Math Tutor | Self Employment | August 2022 – December
- Over **Zoom** I tutored a student on algebra, geometry, and trigonometry fundamentals for 8 hours every month

PROJECT EXPERIENCE
Configurable Pacman | Husky Coding Project – Java Game Engine | September 2022 - October 2023
- Using **Java** and **JavaFX** I led a team to create a configurable version of Pacman which allows users to create personalized versions of the indie game Pacman.
- Researched and developed **critical game logic** including the **Ghost AI**, **map boundary logic**, **Player control logic**, and **Game status logic**. Additionally, I research and developed **JavaFX graphical user interface components** and concurrently led the team by conducting **consistent stand-up meetings**, encouraging **pair programming sessions**, in addition to **constructing and leading progress reports**.

Fall Assessment and Safety Tracking F.A.S.T | CSE 475 Capstone Project | September 2022 – December 2023
- Using **an Android Phone**, **Spark Java Webserver**, a customized **Embedded System**, the **Python** programming language, **Google Co-lab**, and the **Java/Kotlin** programming languages, we set out to create a discrete, data safe wearable to provide safety and security of wellbeing of elderly people and their families.
- With the **phone**, **Java**, **Python**, and **Google Co-lab** I was responsible for the creation of our **customized data transmission protocols**, **data processing and analysis**, and **construction of the webserver**.
- On the phone I leveraged publicly available packages to **retrieve data** initially over a **serial connection** via the USB-C port, then over a **Bluetooth connection**.
- After enough data was collected, using **Google Co-lab** and **Python** I plotted the data in three dimensions to further analyze the patterns in our negatively associated and positively associated falling data.
- After our TensorFlow model was finished, I created a **Spark Java Webserver** to host the model using the **TensorFlow Java API**. Upon a successful classification, the webserver would then call a function I developed to send a text message using the **Twillio Developer API** to a stored phone number.

Arduino Madlib Generator | June 2023
- Developed a Madlib generator using **Arduino**, **C/C++**, **Python**, **ChatGPT**, and various hardware components
- Leveraging the **SPI** and **I2C** communication protocols, we received signals from our various user input components.
- With the collected signals and information stored on the system users chose five descriptive adverbs which were sent over a serial connection to a laptop computer with **PySerial**.
- Using the **ChatGPT API** the five descriptive adverbs were then constructed into a prompt and a Madlib string was generated by the **ChatGPT LLM**.
- Using the same **PySerial** connection, the madlib string was then sent back to the Arduino and displayed to the user over a standard **LCD** screen.