

NOAH CROUCH

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PROFESSIONAL EXPERIENCE

- **Undergraduate Research Assistant** Mar. 2023 – Dec. 2023
Univ. of Wash. Ubiquitous Computing Lab *Seattle, WA*
 - Applied the scientific method in researching and engineering new solutions in assistive medical technologies.
 - Used **CAD software** and **3D printers** to engineer and prototype **over one hundred** eye drop application devices to be used in Computer Vision research aiming to enable users to administer eye drops with high adhesion rate.
 - Prepared scientific documents, performed preliminary research, and searched for supporting information related to musculoskeletal impairments.
- **Front End Developer** Nov. 2022 – Mar. 2023
Univ. of Wash. Sensors Energy and Automation Lab *Seattle, WA*
 - Collaborated with 2 engineers and the lab director to launch the new version of ECoS, the lab's technical writing application in 5 months.
 - Utilized **Figma** in drafting web page designs for the home and search engine pages.
 - Used **JavaScript**, **React**, and **Tailwind CSS** to implement the designs and construct an API linking the front end to the **Django** back-end service.
 - Implemented components such as the Navigation bar and Search Bar and packaged them reducing redundant work in implementation.
- **Lead Game/User Interface Engineer, Project Manager** Sep. 2022 – Oct. 2023
Husky Coding Project, Configurable Pacman Project *Seattle, WA*
 - **Held consistent stand-up meetings** to **draft new project plans and documentation** and brief the team of current product development statuses
 - **Mentored team members** by **encouraging them to program together**, **reviewing their programming commits** in 1on1 meetings, and **holding team events** outside regular working time.
 - **Researched core project infrastructure** throughout the project related to the Java programming language, game development practices, and **JavaFX**-based User Interface implementations.
 - Responsible for **60%** of all programming commits spanning areas in **event driven back end logic**, **Ghost AI and path finding**, **Map interactions in editing and while playing the game**, **core graphical user interface components**, and **key game logic**.

PROJECT EXPERIENCE

- **Quizlet Clone** | *Java, JavaScript, HTML, CSS, Spring Boot, CassandraDB, Docker, Kubernetes, React, AWS* Mar. 2024 – Curr.
 - Utilized **Spring Boot MVC** and **React** knowledge in creating a web application to learn **CassandraDB** via **DataStax Astra**, **Docker**, **Kubernetes**, and **Amazon Web Services**
 - Created a RESTful micro-service hosted on AWS with exposed endpoints allowing the creation and manipulation of Quizlet decks for web hosted games.
- **F.A.S.T** | *Java, Kotlin, Python, TensorFlow, Twilio, Google Colab, Android, Bluetooth, USB-C* Sep. 2023 – Dec. 2023
 - Engineered two protocols for collection and transmission of data from our **Embedded Device** to our **Android phone** over **USB-C** and **Bluetooth**.
 - Utilized **Google Colab** and **Python** to plot our negatively and positively associated falling data in 3 dimensions using the **Matplotlib** package to identify key lower and upper bound thresholds to aid in reducing power consumption on the device and on the phone.
 - Created a Java Webserver to host a **TensorFlow** model using the **TensorFlow Java API** and wrote a function to send a text message using the **Twilio Developer API** to a stored phone number.
- **File Search Engine** | *C, C++, Threads, HTML, GNU, GDB, Valgrind, GoogleSuite* Jun. 2023 – Aug. 2023
 - Developed a **multithreaded** web application to serve documents based on search queries executed on the server's stored files.
 - Implemented **memory-safe** concurrent file accesses using threads and thread pools.
 - Utilized the **STL library** to develop a search query ranking algorithm with **custom file indexing** implementations.

EDUCATION

- **University of Washington** Dec. 2023
*Bachelor of Science in **Electrical *And Computer* Engineering**, Embedded Systems Concentration* *Seattle, WA*
 - Dean's List: Fall 2022, Spring 2023, Fall 2023
- **OpenCV University** In Progress
OpenCV Bootcamp *OpenCV.org*