Jovany Cardoza-Aguilar

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Education

University Of Washington, Tacoma   **March, 2025**

Bachelor of Science, Computer Science | GPA: 3.7

- Placed on the Dean's List (**7x**) | Member of HUSCII Coding Club | Upsilon Pi Epsilon Honor Society

Relevant Coursework

- Object-Oriented Programming | Data Structures & Algorithms| Software QA | Computer Architecture | Machine Learning | Relational Databases | Operating Systems | Compilers

Experience

Exchvnge   **March, 2024 – May, 2024**

Software Engineer Intern

- Integrated **OAuth**-based user auth in a **Next.js** application, with **Firebase** as the backend database.
- Developed frontend for user authorization page with **TypeScript** and **React**.
- Implemented unit tests using **Jest**, including **Firebase** mocks to validate data retrieval and reliability.

University of Nevada, Reno   **May, 2023 – July, 2023**

Undergraduate Researcher

- Researched trajectory inference methods for cell lineages using scRNA-seq data.
- Collaborated with a 3-person team to develop novel **R**-based solutions.
- Achieved a **20%** improvement in trajectory inference accuracy over prior methods.
- Presented biweekly to an audience of **20+** researchers and faculty, defending analysis and conclusions.

Publications

- Cardoza-Aguilar, J., Milbourn, C., Zhang, Y., Yang, L., Dascalu, S.M., Harris, F.C. (2024). **A Holistic Approach for Single-Cell Data Trajectory Inference Using Chromosome Physical Location and Ensemble Random Walk.** In: Latifi, S. (eds) ITNG 2024: 21st International Conference on Information Technology-New Generations. ITNG 2024. Advances in Intelligent Systems and Computing, vol 1456. Springer, Cham. https://doi.org/10.1007/978-3-031-56599-1_64

Projects

RSS-Style YouTube Feed Aggregator | *Go, React, Vite, PostgreSQL, Docker, REST/HTTP*

- Developed a full-stack RSS feed for YouTube content, using relational data modeling.
- **RESTful/CRUD** architecture in **Go**, with **Docker** containerizing **PostgreSQL** database.
- Frontend developed with **React** and **Vite**.

Wearable BLE Media Controller | *ESP32, C++, Bluetooth Low Energy, 3D Printing*

- Designed a clip-on device using an **ESP32** to wirelessly control media playback (play/pause/volume).
- Implemented **BLE HID** firmware in **C++** on ESP32; integrated LiPo power and charging circuit.
- Designed a custom **3D-printed** enclosure for secure and ergonomic attachment.

Filter Forge | *Java, Python, Docker, AWS*

- Developed an image-processing **pipeline** supporting cropping, resizing, rotation, and Gaussian blur.
- Leveraged **AWS** services (**Lambda**, **S3**) for seamless image storage, retrieval, and processing of functions.
- Containerized the application with **Docker** for portability and streamlined deployment.

TECHNICAL SKILLS

- **Languages**: Java, Python, Go, C, C++, R, JavaScript, TypeScript, HTML, CSS
- **Tools/Frameworks**: React, Vite, Tailwind CSS, Next.js, Node.js, Jest, Docker, AWS, Arduino, Git
- **Databases & Data Modeling**: PostgreSQL, SQL, SQLite, Schema Design
- **Methodologies**: Agile, SCRUM