JONAH MULCRONE

Tacoma, Washington | +1 (253) 328-2973 | jonahmulcrone.com | jonahmulcrone@gmail.com

EDUCATION

BA Computer Science, BBA Finance, Minor in Data Science   **Tacoma, WA**
Pacific Lutheran University (PLU)   *September 2019 – May 2024*

- **Coursework***: Databases & Web Programming, Algorithms, Data Structures, Data Mining, Artificial Intelligence, Discrete Structures, Data Science II, Statistical Modeling, Information Systems
- **Achievements:** Department of Computer Science GPA: **3.6/4.0** | Dean's List: **6** Consecutive Semesters

SKILLS

Technologies: TypeScript, JavaScript, ReactJS, Angular, Bootstrap, Tailwind, HTML, CSS, JWT, Redis, ExpressJS, NodeJS, FastAPI, Python, NumPy, Spring Boot, Java, SQL, MongoDB, Firebase, Scikit-Learn, Git, Docker, Cypress, JUnit, AWS

WORK EXPERIENCE

Software Development Intern   **Renton, WA**
Onyx AI   *December 2024 – March 2025*

- Developed a real-time chatbot service, utilizing WebSockets and AWS Lambda to handle concurrent connections with **30%** lower response latency (***ReactJS, AWS Lambda, WebSocket***).
- Integrated Firebase Auth with Redux, optimizing authentication calls by **90%** and improving user experience. (***Firebase Auth, Redux***).
- Built a dynamic UUID-based navigation system for easy access to chat histories, reducing support queries on lost messages by **15%**. (***Firebase Auth, React Router DOM***).

Software Development Intern   **Tacoma, WA**
Pierce County IT   *June 2024 – December 2024*

- Transitioned CLI applications for geocoding to micro web services to improve scalability and developed JUnit tests to improve overall code coverage (***Spring Boot, Spring MVC, Groovy, JUnit, MockMvc***).
- Engineered a Groovy-based automation tool that converted Protractor E2E tests to Cypress, achieving a **65%** migration success rate. (***Angular, Cypress, Groovy***).
- Followed Agile Methodology, leveraging Jira and Bitbucket to streamline workflows and version control (***Bitbucket, Git***).

Financial Analyst Intern   **Seattle, WA**
Alaska Airlines   *May 2022 – August 2022*

- Identified major cost discrepancies between California and Pacific Northwest airport real estate expenses (***PeopleSoft Financial Analytics***).
- Performed Ad Hoc Analysis for ITS contractors by determining cost drivers and understanding changes in ITS contractor volume, hourly rates, and forecasting surprise (***IBM TM1, Microsoft Excel)***.

RESEARCH

Human Aligned Hazardous Detection Model   **Durham, NC**
Duke University's Responsible AI Symposium   *January 2025 – February 2025*

- Architected a full-stack application for ML training data collection, gathering **5,000+** survey responses with engineered attention-based features (***React, TypeScript, Bootstrap, Express, MongoDB***).
- Developed real-time gaze tracking system for analyzing user attention patterns during simulated driving scenarios (***WebGazer.js***).
- Implemented secure authentication and encrypted data handling for large-scale survey response collection with **75+** users (***JWT, MongoDB, BCrypt***).

PROJECTS

Financial Analytics Dashboard   *May 2024*

- Integrated Plaid API to securely sync real-time banking data across multiple financial institutions, enabling comprehensive transaction analysis (***RESTful API, Redis, TypeScript, ReactJS***).
- Constructed SQL-backed ETL pipelines to handle CRUD operations, ingesting transactional data using Flask-SQLAlchemy to power a financial analytics dashboard (***Python, Flask-SQLAlchemy, SQL***).
- Designed detailed UI wireframes in Figma to map user flows and guide front-end development (***Figma, UI/UX Design***).

Flight Delay ML   *September 2024*

- Implemented data mining techniques to analyze **500,000+** flights, focused on predicting whether a user's flight will be delayed (***Python, Scikit-Learn***).
- Employed preprocessing techniques including data cleaning, transformations, and standardizations, resulting in a ~**25%** increase in model accuracy for classifications (***NumPy, Pandas***).