JONAH MULCRONE

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EDUCATION

Bachelor's in Computer Science & 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   **Tacoma, WA**
Pierce County IT   *June 2024 – December 2024*
- Engineered a Groovy-based automation tool that converted Protractor E2E tests to Cypress, achieving a **65%** migration success rate. (***Angular, Cypress, Groovy***).
- 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***).
- Followed Agile Methodology, leveraging Jira and Bitbucket to streamline workflows and version control (***Bitbucket, Git***).

Software Development Intern   **Renton, WA**
Onyx AI   *December 2024 – March 2025*
- Engineered a chatbot using SOLID principles, utilizing WebSockets for streaming large web scraping responses asynchronously and AWS Lambda for scalable, event-driven processing (***ReactJS, WebSocket, AWS Lambda***).
- Integrated Firebase Auth with Redux, overall reducing redundant authentication calls and enhancing user experience. (***Firebase Auth, Redux***).
- Built a dynamic UUID-based navigation system for easy access to chat histories, reducing support queries on lost messages (***Firebase Auth, React Router DOM***).

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

Equity Research Platform   *Present*
- Implemented data persistence strategies using Redis caching protocols, yielding a **70%** reduction in API call volume and a **90%** decrease in average response latency from 3s to 0.3s (***Python, Redis, Docker***).
- Implemented Docker containerization for key services, creating a standardized development environment that improved team collaboration and simplified the deployment process (***Docker***).

Personal Finance Tracker   *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***).