JONAH MULCRONE

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EDUCATION

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

- **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, Java, Python, R, Scikit-Learn, NumPy, Seaborn, HTML, CSS, ReactJS, Angular, Flask, Spring Boot, JWT, Bootstrap, Firebase, Git, Github, Docker, Cypress, JUnit, AWS

WORK EXPERIENCE

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

- 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 script with regex to automate the migration of Protractor E2E tests to Cypress E2E tests, achieving a **65%** conversion rate and modernizing test capabilities (***Angular, Cypress, Groovy***).
- Expanded map tile functionality in the Pierce Application Core Library (PAC) by incorporating support through APIs like OpenLayers and ArcGIS (***Angular, Typescript, Grails***).

Software Development Engineer September 2024 – Present 2025
OnyxAI *Renton, WA*

- Spearheaded the development of a real-time chatbot service which connects to an AWS Lambda through a multithreaded WebSocket server (***ReactJS, Firebase Firestore, AWS Lambda, WebSocket***).
- Integrated Firebase Auth with Redux to create a user service, reducing redundant Firebase API calls by **90%** and streamlining the registration and sign-in process (***Firebase Auth, Redux***).
- Built a UUID-based navigation system for easy access to chat histories, reducing support queries on lost messages by **15%**. (***Firebase Auth, React Router DOM***).

RESEARCH

Human Aligned Hazardous Detection Model January 2025 – Present 2025r
Submitted to: Duke University's Responsible AI Symposium *Durham, NC*

- Built a modular full-stack application for gathering human-aligned ML training data, gathering over 5,000+ survey results (***React, TypeScript, Bootstrap, Express, MongoDB***).
- Engineered real-time gaze tracking system to collect precise user attention data while viewing driving footage (***WebGazer.js, React Hooks***).
- Implemented secure authentication and database integration for user management and survey response collection (***JWT, MongoDB Atlas, BCrypt***).

PROJECTS

Financial Analytics Dashboard | *ReactJS, Flask, FlaskSQL-Alchemy, SQL,Typescript, Python, Docker, JWT*

- Leveraged **Plaid API** to enable users to connect bank accounts and retrieve relevant data through RESTful API calls, enhancing financial management tool capabilities.
- Constructed SQL-backed ETL pipelines to handle CRUD operations, ingesting transactional data using **Flask-SQLAlchemy** to power a financial analytics dashboard.
- Developed frontend in **ReactJS** for the analytics service, creating appealing visualizations using **ReCharts** that display financial spending behavior.