Najel Alarcon

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EDUCATION

San José State University San Jose, CA
Masters of Science in Applied Data Intelligence *Aug. 2024 – May 2026*

University of California, Santa Cruz Santa Cruz, CA
Bachelor of Science in Computer Engineering, Minor in Computer Science *Sept. 2019 – June 2023*

EXPERIENCE

Software Engineer Intern Oct. 2020 – Apr. 2021
Alef Aeronautics *Santa Clara, CA*
- Contributed to flight control software development for a flying vehicle startup
- Developed user interface for monitoring vehicle systems diagnostics
- Managed codebase using Git, ensuring version control and documenting changes and updates

PROJECTS

Uber Clone | *React.js, Node.js, Express.js, MongoDB, SQL, FastAPI, AWS, Docker, Kafka, Kubernetes, Redis*
- Developed a full-stack microservice ride share system, implementing a 3-tier architecture, containerized with Docker and orchestrated via Kubernetes on AWS
- Implemented a FastAPI-based microservice to predict ride prices using a machine learning model
- Designed RESTful APIs and managed data consistency across SQL and NoSQL databases
- Integrated Kafka for asynchronous communication between microservices and real-time ride event processing

Big Data Stream: Trend Analysis | *Apache Spark, PySpark, Kafka, Docker, Kubernetes, PostgreSQL, Grafana*
- Developed a data streaming pipeline to identify lingos and trends from Twitter API
- Implemented streaming algorithms with differential privacy to extract key information from high-volume streams
- Stored data from stream into Postgres and utilized Grafana for visualization and analysis

UberEats Clone | *React.js, Node.js, Express.js, MongoDB, AWS, Docker, Kafka, Kubernetes*
- Designed and implemented a full-stack food delivery system with separate user flows for restaurants and customers
- Deployed a dockerized monolith on AWS using Kubernetes for container orchestration
- Integrated Kafka for asynchronous order processing and real-time updates

Traffic Data Warehouse Analysis | *Python, AWS S3, Redshift, ETL, SQL, Data Warehousing*
- Designed and implemented a data warehouse to aggregate traffic data, including accidents and weather conditions
- Stored data in Amazon S3 and used Redshift to create fact and dimension tables to perform queries
- Utilized Python to clean and transform all relevant datasets

Slack Clone Mobile Application | *Kotlin, Swift, React Native, Barista, XCTest, Jest*
- Developed a Slack clone mobile application in Kotlin, Swift, and React Native
- Implemented RESTful API integration to enable real-time messaging, authorization tokens for access, and collaboration features within the application
- Conducted unit tests and debugging to enhance the stability and reliability of the application

IoT Obstacle Detection System | *C++, Arduino Nano BLE 33, IRAS Sensors*
- Developed an IoT Obstacle Detection System utilizing Arduino Nano 33 BLE
- Integrated GPIO read/write for obstacle detection to trigger an external red LED, displayed IRAS messages on LCD
- Configured Nano 33 BLE as a peripheral device, enabling real-time updates via BLE Phone App or BLE console

TECHNICAL SKILLS

Languages: Python, C/C++, JavaScript, HTML, CSS, SQL, Swift, Kotlin
Technologies/Frameworks: React.js, React Native, Node.js, Express.js, MongoDB, MySQL, Kafka, Kubernetes
Developer Tools: Git, Unix, VS Code, Postman, Docker, AWS
Libraries: pandas, NumPy, Matplotlib