CAMERON HIRSH

www.camjhirsh.dev | linkedin.com/in/camjhirsh | 858.205.3649
github.com/camjhirsh | San Diego, CA | camjhirsh@gmail.com

SKILLS

Languages	Javascript, Python, Java, SQL, R, Scheme, RISC-V Assembly
Dev Ops	AWS: EC2/RDS/S3, Git, CI / CD, npm, webpack, babel, Node.js, Postman, k6, streamlit.io, TDD
FW / Lib	Express, React, Redux, Jest, Mocha, Chai, Sequelize ORM, bluebird, supertest
Data / AI	Power BI, pandas, numpy, scikit-learn, pytorch

EXPERIENCE

Atelier E-Commerce *AWS EC2, NGINX, Loader.io, Webpack, Babel, React, MySQL, MongoDB*

- Horizontally scaled legacy monolithic systems to increase RPS threshold, utilizing NGINX load balancer and microservices.
- Designed and deployed custom database and API, decreasing server response times from ~2400ms to ~50ms.
- Used batch processing to keep ETL script memory allocation below production threshold for data asset transfer.
- Built the client application using React and CSS. Integrated click tracker feature to analyze client behavior. *Demo link*

QuartZite EcoDrive *Javascript, Github Actions, AWS Elastic Beanstalk, MongoDB Atlas, GoogleMaps API*

- Agile development of mobile web-app. EcoDrive is a rideshare app incentivizing users to carpool to/from regular commutes.
- Led database design, implementation, and management. Used CI/CD and ticketing system for a 3 week app development cycle.
- Owned the feature for a user starting/ending a trip. Ensured each user's data is updated appropriately upon any user's action.
- Integrated my feature with related components, utilizing hooks and higher-order components and used supertest for testing.

Mini Maps *Java, Spark, OpenStreetMaps API*

- Wrote a Java backend to create a Google Maps style mapping application for the UC Berkeley campus and its surroundings.
- Used the A* heuristic shortest path algorithm in conjunction with a custom min-heap to efficiently route the user.
- Leveraged the trie data structure for point of interest search autocompletion, and a K-D tree for finding the closest node.
- Built an API router to handle user requests, map resizing, and automatic rastering.

Hack-man Pacman *Python, Reinforcement Learning, Search Algorithms, Pruning*

- Built a Python backend for an AI-controlled Pacman game. Multi-agent system to model pacman and ghost behaviors.
- Staked Breadth First Search, Depth First Search, and A* Search against one another and wrote a consistent heuristic algorithm.
- Implemented a value iteration agent then used q-learning to train it. Used alpha-beta pruning for efficient tree exploration.

Character Classify *RISC-V Assembly, Venus, Linear Algebra, Neural Net*

- Wrote an assembly script to read handwritten characters and use a simple machine learning algorithm to classify the character.
- Used the MNIST dataset as input and implemented matrix multiplication on the flattened vectors to output the classification.

EMPLOYMENT

Cibus **Senior Research Associate: LIMS & BI** *2021 - Present*

- Scaled Trait Machine production efficiency 4x by leading design and integration of a unified LIMS solution (*L7 ESP)*.
- Defined requirements, developed solutions, tested builds, integrated instruments, barcodes, labels, & designed entity models.
- Established Power BI as our data utilization tool for operations and analytics. Built reports using custom PostgreSQL views.
- Designed data models, consumed custom API, and visualized the queries. Built reports to track KPIs for all involved teams.

SigmaPoint Technologies **Quality Engineer Co-op** *2020*

- Reduced operational overhead by retiring siloed QMS app (Lotus Notes) via *Bluestar PLM* module configuration.
- Gathered requirements and implemented solutions for SOP's NCR's, RMA's, QA's, and CAR's, streamlining the workflows.
- Eliminated manual KPI reporting by building an automated metrics and KPI monitoring dashboard in *Microsoft D365*.

EDUCATION

Hack Reactor *Certificate in Full Stack Engineering* *2023*

- Advanced full stack web application development remote part-time program (PST).

UC Berkeley *B.A. Data Science* *2021*

- Emphasis in Computational Biology Methods (algorithms for genome sequence alignment).
- Courses: Data Structures, Artificial Intelligence, Data, Inference, & Decisions, Designing Information Devices & Systems, Multivariable Calculus, Discrete Math & Probability Theory, Principles of Data Science, Linear Algebra, Machine Structures