

CAMERON HIRSH

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SKILLS

Languages	Javascript, Python, Java, SQL, R, M, DAX, Scheme, C, Bash, RISC-V Assembly
DevOps	AWS: EC2/RDS/S3, Git, CI/CD, npm, webpack, babel, Node.js, Postman, k6, streamlit.io, HTML5, CSS, TDD
FW/Lib	Express, React, Redux, Jest, Mocha, Chai, Sequelize ORM, bluebird, supertest, jQuery, OpenCV
Data/AI	Power BI, pandas, numpy, matplotlib, scikit-learn, pytorch, Jupyter

EXPERIENCE

- Atelier E-Commerce** *AWS EC2, NGINX, Loader.io, Node.js, Express, Webpack, Babel, React, MySQL, MongoDB*
- Horizontally scaled legacy monolithic systems to increase RPS threshold, utilizing NGINX load balancer and microservices.
 - Designed and deployed custom No-SQL database and API, decreasing server response times from ~2400ms to ~50ms.
 - Improved ETL script RAM usage by ~99.8% through batch processing of CSV files exported from legacy DB.
 - Decreased time to first contentful paint from ~1.6s to ~0.5s by eliminating redundant HTML requests and minifying CSS/JS.
 - 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, React, GoogleMaps API*
- Developed a mobile rideshare web app (*MERN*) that incentivizes users to carpool to/from regular commutes.
 - Led database design, implementation, and management. Used CI/CD and Agile methods in 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 client's action.
 - Optimized client-side performance by utilizing higher-order components and effects hooks. Tested with Jest and supertest.
- 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.
 - Efficiently routed user by implementing the A* heuristic shortest path algorithm in conjunction with a custom min-heap.
 - 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.
- Mobility Analysis** *Python, Jupyter, pandas, numpy, scikit-learn*
- Analyzed the Covid-19 pandemic's impact on society's mobility patterns across countries using Google's Mobility Dataset.
 - Conducted Multiple Hypothesis Testing to inspect the differences in impact between developing and developed countries.
 - Investigated the relationship between workplace and retail mobility using Causal Inference, using OLS to mitigate bias.
- Chatterbox** *Javascript, Node.js, bluebird, Mocha, jQuery, AJAX, HTTP, XSS*
- Built the client-side for a live-chat application, displaying chat room messages and allowing clients to submit messages.
 - Wrote the backend using NodeJS, defined request handlers and built a custom utility library (without Express).
 - Utilized jQuery to minimize the codebase and abstract JS DOM manipulations. Implemented baseline XSS protection.

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 user requirements, designed an entity resource diagram, developed workflows, and led end-user testing.
 - Established Power BI as our data utilization tool for operations and analytics. Sourced data from custom API & PostgreSQL.
 - Built and deployed operational reports (data model, transformation, & visualization) for both commercial and research teams.
- SigmaPoint Technologies* **Quality Engineer Co-op** *2020*
- Reduced operational overhead ~15% by configuring *Bluestar PLM* Module to replace siloed QMS app (Lotus Notes).
 - Streamlined workflows for SOP's NCR's, RMA's, QA's, and CAR's, adhering to ISO 9001 Quality process requirements.
 - Automated KPI and metrics monitoring by building a dashboard in *Microsoft D365*, eliminating manual report generation.

EDUCATION

- Hack Reactor** *Certificate in Full Stack Engineering* *2023*
- Advanced full stack web application development program (PST) focusing on REST, React, Express, and databases.
- University of California, 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 I/II, Multivariable Calculus, Discrete Math & Probability Theory, Principles of Data Science, Linear Algebra, Machine Structures