Parker Charles Cassar

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EDUCATION

University of California, Berkeley

Computer and Data Science, B.A.

LANGUAGE EXPERTISE

• Languages: C/C++, Python, Java, Go, JavaScript (React, Typescript, Node.js, Next.js), SQL, Bash (Git), R, Pwsh

EXPERIENCE

Software Engineer

Office of Animal Laboratory Center for UCB

- Oct 2024 Feb 2025 • Performance Optimization: Optimized SQL queries using Apache Spark for distributed data processing, and improved relational database structures, reducing overall processing time by 30% so far for 100+ researchers.
- API Development: Building secure RESTful APIs to handle data exchange between internal HR systems and the Cayuse platform, improving data accuracy and accessibility.
- Automation: Data validation and reporting processes automated using PowerShell scripts, reducing manual intervention and errors in the weekly bulk data back up.

Full-stack Developer

- Institute of Electrical and Electronics Engineers (IEEE) Berkeley Chapter
 - **Teamwork**: Leading a team of five members with weekly maintenance and assignment meetings. • Application Design: Migrated website's front-end using TypeScript, React and Next.js from outdated Ghost platform and reduced page load time by 25%.
 - Back-end Infrastructure: Modernized back-end, Node. js and MongoDB stack to track member attendance, office usage, and inventory supporting 100+ active users. Enhanced security with HTTPS/SSL protocols.

Machine Learning Intern

- Pikrex
 - ML Engineering: Developed PyTorch-based manga text detection and translation system achieving 92% accuracy, using Apache Spark to train on 1M+ samples and engineer 50+ performance-enhancing features.
 - Scalable Dev: Developed Tesseract OCR (Optical Character Recognition) pipelines with Docker, reducing deployment time by 40% and scaling to handle up to 10,000 manga frames across various environments.
 - **Natural Language Processing**: Trained machine learning models for text recognition with NLTK and spaCy, using AWS cloud resources to reduce processing time by 30% and improve accuracy to 92%, including extensive data preprocessing with Python's pandas.

Course Staff

- CS 70 Discrete Mathematics & Probability
 - Staff TA: Helped develop and teach discrete Mathematics and conditional probability curriculum for over 500 students and led a twenty-student discussion session.
 - **Tutoring**: Assisted students through one-on-one weekly office hours with a focus on the coding portion of projects and homework assignments.

PROJECTS

AliExpress Web Scraper

- Robust Scraper for Tracking Prices and Sales of 1K+ Products
 - High-Performance Scraping: Engineered a highly efficient Go (Golang) scraper capable of crawling and parsing over 20 pages per minute, minimizing latency.
 - Dynamic Page Handling: Using Selenium (tebeka API in Go) to parse and extract data from JavaScript-rendered pages, enabling extraction of information from dynamic content.
 - Cloud-Native Architecture: Deployed the web scraper on Google Cloud Platform (GCP) for real-time tracking of prices using load balancing to asynchronously check thousands of concurrent requests.

Gitlet - User version-control system

File management mimicking Git

- File Management: Implemented file software to scan through 1000's of folders and reduced document retrieval time by 80% compared to native retrieval.
- Commit Graph Visualizer: Constructed a custom ASCII commit command line visualizer to better understand your git log including the different branches and their commits.

Dec 2022 - Aug 2023

May 2022 - Jan 2023

Feb 2022 - Jan 2025

2025

2024