Ethan Cavill

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San Rafael, California

 linkedin| github| portfolio

Experience

Clai Studios   **Mar 2024 - Present**

Full Stack Engineer   *San Rafael, CA*

- Provided consultation for a pain management web application using React and Firebase, aimed at enhancing treatment efficacy and expanding the client base through personalized routine planning and digital coaching.
- Implemented automation services for a marketing agency, increasing output by 5x. Services included social platform schedulers using Python and GCP, web scraping with Selenium, and streamlining the hiring process through SOPs.

Tangible AI   **Oct 2023 - Jan 2024**

ML/Python/DS/NLP Engineering Intern   *San Diego, CA*

- Developed and evaluated a seq-to-seq neural network translator using PyTorch, featuring a single GRU layer.
- Proofread and published edits to 'Natural Language Processing in Action,' improving clarity in 10 chapters.
- Developed a vector-based search engine leveraging BERT models to improve corpus searchability, resulting in an 88% improvement in recall over TF-IDF search. Later forked to create 'Knowt,' an open-source RAG project.
- Presented findings and insights to 30+ attendees at the San Diego Python User Group, supplemented by a detailed blog post.

Adelaide MRI   **Jul 2021 - Oct 2023**

Full Stack Engineer   *Adelaide, SA*

- Developed and maintained RadReport, a radiology reporting system generating 100+ reports daily, significantly enhancing usability, productivity, and accuracy compared to conventional systems.
- Created an invoicing application using the MediPass payment API and webhooks, reducing errors, delays, and inconveniences associated with the legacy analog system.
- Spearheaded the migration of the employee rostering system from React to Angular, consolidating the tech stack to improve maintainability and reduce friction for feature extension.
- Led the development of a patient booking system using Next.js (React), GCP, and FastAPI (Python), alleviating the reception staff's call burden.
- Wrote and maintained unit tests with PyTest (90%+ coverage) and end-to-end tests using Cypress.

Projects

Deep Work Timer | NextJS, Docker, AWS, Redis, Postgres, Jotai, GraphQL, Strawberry, FastAPI, SQLModel

- Developed a productivity application inspired by Cal Newport's 'Deep Work,' optimizing focus tracking and usage retention through a streak-based social ranking system.
- Implemented a containerized development environment with Docker, enhancing consistency and portability across operating systems.
- Integrated authentication and authorization using Redis and PostgreSQL for fast, secure session management; utilized AWS S3 for user uploads.
- Experimented with distributed microservice architecture using RabbitMQ to enhance scalability and fault tolerance.

Portfolio | Next.js, Tailwind CSS, Framer Motion, MDX, Vercel

- Designed and developed a portfolio website to showcase projects, services, and insights, utilizing React and Markdown components for dynamic content rendering.

Devarity | PHP, MySQL, Python, Bootstrap, JQuery

- Developed and managed an indie game distribution platform providing fairer profit margins and a unique customer experience, launching with over 50 games.
- Led strategic decision-making and planning across design, marketing, product management, engineering, and launch operations.

Skills

Languages	Python, JavaScript, TypeScript, SQL, HTML/CSS, Bash
Technologies	React, Angular, Redux, RxJS, Docker, Flask, FastAPI, Postgres, MongoDB, Redis, Celery, RabbitMQ, PyTorch, PyTest, Cypress, Sentry, Selenium, GCP
Concepts	Full-Stack Development, Front-End Development, System Design, State Management, Agile, Scrum, Machine Learning, Data Science, Distributed Systems, REST API, GraphQL API, Unit Testing, End-to-End Testing, Version Control, Git, CI/CD, Reactive Programming

Education

Bachelor of Mathematical Sciences   **Jul 2022 - Dec 2023**

University of Adelaide   *Adelaide, SA*

- Accelerated linear algebra and calculus classes foundational for computer science and machine learning.

Bachelor of Economics and Finance   **Mar 2018 - Nov 2020**

University of Adelaide   *Adelaide, SA*

- Foundations in modern and classical economic theory with application of financial modelling, statistics and data analytics.