Eric Zhu

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Recent computer science graduate from UNSW focused on building beautiful backend and machine learning systems using Python, Java, and TypeScript. I'm currently working on NotesCast, a site that offers condensed summaries of the best podcasts in business, technology, and health, allowing users to discover and learn from the best in the world in minutes. I'm also a scholar of philosophy, financial markets, and design, where I explore how principles from other disciplines can inform and inspire my work.

Experience

NotesCast, Sydney, Australia   Jul 2023 - Present
Founder, Software Engineer

- Automatic Speech Recognition and Large Language Models are used alongside various prompting techniques, such as Chain-of-Density, to transform podcast audio files into summaries
- Generated data is embedded in sliding windows to power Alexandria, a Retrieval Augmented Generation agent that allows users to query for industry-specific knowledge, as well as a recommendation engine for users to discover related content
- User authentication is handled via Firebase, while the other server features including RAG is deployed to AWS EC2
- v0.1 launched in Dec 2023 with roughly 300 MAUs, and currently working on improving summary text quality and response accuracy for Alexandria for a v1 release

National Australia Bank, Sydney, Australia   Jan 2022 - Feb 2023
Software Engineer Intern

- Delivered robust production features for the New Payments Platform using Java, Spring, and Jenkins on AWS under an Agile software development model.
- Shipped a business critical feature that enabled businesses to process inbound transactions using PayID, which had a projected revenue impact of 3-5 million per annum
- Triaged and fixed a backpressure performance bug in Kafka, where payment transactions would occasionally during high-traffic loads, helping the system achieve 5,000 transaction messages per second
- Improved deployment and testing CI/CD pipelines using Python, Jenkins, and Terraform, resulting in an 8% increase in QA efficiency

The University of Sydney, Sydney, Australia   Nov 2021 - Apr 2022
Research Engineer

- Contributed to the design of a Fast Low-cost Online Semantic Segmentation model for detecting anomalous contextual changes in streaming sensor data
- Responsible for designing and implementing a website using Gatsby and Contentful CMS for the research project

MAPFRE Insurance, Shanghai, China   Nov 2019 - Feb 2020
Software Engineer Intern

- Collaborated with a senior engineer to create a new mobile app using Vue.js and Node.js, which resulted in a 18% reduction in incident response time using an optimised routing algorithm

Education

University of New South Wales   2022
Bachelor of Science, Computer Science (Artificial Intelligence)

Skills

Languages: Python, Java, TypeScript, JavaScript, HTML, CSS, C, SQL, Solidity, React Native

Libraries: PyTorch, React, Next.js, Gatsby, Vue.js, Spring, LangChain, Scipy, Terraform, Kubernetes, Framer Motion
Databases: PostgreSQL, PineconeDB, MySQL, MongoDB, SQLite, DynamoDB, Redis
Platforms: Notion, Figma, Canva, Runway ML, Excel, SAP, AWS, Firebase

Works

"WEBSITE" | github.com/ericfzhu/website | http://ericfzhu.com/
- A canvas where coe is the paintbrush
TypeScript, Next.js, Framer Motion, and p5.js

Imitator | github.com/ericfzhu/imitator
- Image-to-image translation using ResNeXt-based GAN
Python, PyTorch, GAN

Palette | https://github.com/ericfzhu/palette | https://palette.ericfzhu.com/
- Colour generator using Stable Diffusion XL
TypeScript, Next.js, Stable Diffusion

Codex | https://github.com/ericfzhu/codex | https://codex.ericfzhu.com/
- On the memetic nature of wisdom
Next.js, Three.js, and PineconeDB

Certifications

AWS Certified Cloud Practitioner
Microsoft Certified: Azure AI Fundamentals

Volunteer

Enactus, Sydney, Australia   Dec 2021 - Apr 2022
Software Engineer

-   Developed EnAccess Maps, a mobile app for disadvantaged individuals to find and review wheelchair accessible
    restaurants, using React Native and OpenStreetMap
-   Built the backend of the CirCex, a platform that enables charity op-shops to easily catalogue their items for an online
    database

UNSW Redback Racing, Sydney, Australia   Sep 2021 - Apr 2022
Data Scientist

-   Developed machine learning models to predict vehicle design parameters and optimise the performance of the next
    generation Formula SAE vehicle
-   Architected a data pipeline to simulate custom vehicle designs using Assetto Corsa and analyse the results using
    Python on Jupyter Notebooks and Kedro