

# Eric Zhu

Experienced software engineer focused on backend systems and machine learning

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## Education

Bachelor of Science, Computer Science (Artificial Intelligence)

Oct 2022

**University of New South Wales** | Sydney, Australia

Treasurer and Vice President at PCSoc, Data Scientist at Redback Racing and Developer at Enactus

## Relevant Experience

**NotesCast**, Sydney | Founder

Jul 2023 - Present

- Built a website that creates notes for podcast episodes from generated transcripts using Auto Speech Recognition
- Architected and deployed Alexandria, a RAG feature that uses notes and transcript data with GPT-4 for podcast Q&A
- NotesCast extracts key insights using GPT-3.5 and Mixtral with Chain of Density prompting and prompt compression
- All relevant data are embedded in sliding windows using AdaV2 and SPLADE for hybrid vector search

**National Australia Bank**, Sydney | Software Engineer Intern

Jan 2022 - Feb 2023

- Delivered robust production features for the New Payments Platform using Java, Spring and Jenkins on AWS
- Engineered and shipped the feature that enabled businesses to process inbound transactions using PayID
- Triaged and fixed a backpressure bug in Kafka where payment transactions would disappear during high traffic
- Automated deployment and testing procedures using Python and HashiCorp, resulting in an 8% improvement in QA efficiency

**University of Sydney**, Sydney | Research Engineer

Nov 2021 - Apr 2022

- Contributed to the design of a semantic segmentation algorithm for detecting anomalous contextual changes in streaming sensor data
- Designed and implemented a website using Gatsby and Contentful CMS for the demo of research results

**MAPFRE Insurance**, Shanghai | Software Engineer Intern

Nov 2019 - Feb 2020

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

## Selected Projects

**Website** | [github.com/ericfzhu/website](https://github.com/ericfzhu/website)

Sep 2023 - Present

- Personal website built using Next.js, Framer Motion, and p5.js
- An artistic exploration of design and self-expression using code

## Skills & Interests

**Programming Languages:** Python, Java, JavaScript, TypeScript, C, C++

**Libraries & Tools:** PyTorch, React, Next.js, Gatsby, Cypress, Spring, LangChain, Docker, Firebase, Amazon EC2, ECR

**Databases:** PostgreSQL, Pinecone VectorDB, MySQL, MongoDB NoSQL, SQLite

**Interests:** Machine learning, investing, industrial engineering, fashion, reading

## CERTIFICATIONS

AWS Certified Cloud Practitioner, Microsoft Certified: Azure AI Fundamentals