

# ERIC ZHU

SOFTWARE ENGINEER

## CONTACT INFORMATION

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## EDUCATION

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Bachelor of Computer Science (Artificial Intelligence) Oct 2022  
University of New South Wales, Sydney  
Treasurer of PCSoc, Lead Data Scientist of Redback Racing and Dev Lead at Enactus

## EXPERIENCE

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

- Developed a new feature in Java and Spring for the New Payments Platform with 2 people to enable inbound PayID payments for businesses and performed handover for feature deployment into production
- Resolved a Confluent Kafka connector bug in Java that resulted in a 4% drop in processed transactions due to dropped messages and a bug with a microservice to cause duplicate messages
- Automated testing procedures using Python and Jenkins, resulting in an 8% improvement in QA efficiency

University of Sydney, Sydney | Research Engineer Nov 2021 - Apr 2022

- Implemented the FLOSS algorithm for detecting anomalous contextual changes in streaming sensor data
- Developed a website using Gatsby, Emotion and Contentful for the showcase of research results

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

- Created a new app using React and Node.js in a team of 4 that resulted in a 18% reduction in incident to response time due to an improved UX and routing algorithm for drivers

## PROJECTS

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NotesCast | [notescast.com/](https://notescast.com/)

- A better way to discover insights from the best technology, wellbeing and business podcasts
- Search for content or access a shortcut in seconds with a global command palette using cmd+k
- Transcribed podcast RSS feeds using Whisper Automatic Speech Recognition model
- Extracted key insights from transcripts using GPT-3.5 Turbo with Chain of Density prompting, and embedded into sliding window chunks using ada-002 and SPLADE-V2 for dense-sparse hybrid vector search
- Agent uses a HyDE model to modify the user's query for precise Retrieval Augmented Generation (RAG)
- Built using React, Typescript, Next.js frontend, and Python, Pinecone, Firebase, Firestore backend

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

- My personal website - Next.js, Tailwind, Framer Motion, hosted on AWS Amplify

## SKILLS

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Programming languages: Python | Java | Javascript | Typescript | C | SQL

Frameworks: PyTorch | React | Next.js | Cypress | Spring | LangChain | Docker | OpenAI | OpenSearch | Firebase

Databases: PostgreSQL | Pinecone VectorDB | MySQL | Redis

## CERTIFICATIONS

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AWS Certified Cloud Engineer, Microsoft Certified: Azure AI Fundamentals