

# Isaac Tay

Graduate Data Scientist/Software Engineer with a strong interest in building AI & Machine Learning models/software for public good.

## EXPERIENCE

### Synechron, Singapore — *Junior Associate/AI Engineer*

Sep 2024 - Present

- Worked on several AI-oriented projects for multiple banks, residing in Singapore (Mizuho, UOB).
- Developed an ML pipeline using Azure AI Services to automate key information extraction from invoices, reducing processing time and enabling faster uploads for mandatory audits.
- Collaborated with a cross-functional team of two to design and develop a Chatbot with Retrieval-Augmented Generation (RAG) for querying company knowledge bases.
- Led the development of an internal HR compliance dashboard (Streamlit) that analyzes workforce nationality distribution to ensure adherence to local regulations.
- Completed company-sponsored training in Java (J2EE) and Cloud technologies, enhancing technical expertise.
- Organized and coordinated corporate events for 30+ employees, demonstrating leadership and project management skills.

### Groundup.AI, Singapore — *Data Science/IOT-Engineer Intern*

Jan 2024 - Jul 2024

- Led the development, validation, and deployment of predictive maintenance Machine Learning models using audio files as training data.
- Managed the deployment of edge computing devices (Google's Coral Board) and AI models for real-time analytics in client environments.
- Generated and presented comprehensive reports to stakeholders, showcasing the integration of AI with IoT to enhance client confidence and project outcomes.

### Hummingbird Bioscience, Singapore — *AI Engineer/Web-Dev Intern*

Sep 2023 - Dec 2023

- Fine-tuned, tested, and evaluated various Large Language Models, benchmarking their performance against GPT-3.5 and GPT-4, to determine the best model for the summarising of academic papers on cancer research.
- Used Streamlit framework to develop a Chatbot UI, backed by OpenAI's LLM.
- Maintained and enhanced an internal tool that automatically retrieves and summarizes academic papers daily, redesigning the UI to better align with research scientists' reading workflows.

### Bosch GmbH, Singapore — *Data Science Intern*

Jun 2022 - Jun 2023

- Assisted a research scientist in the development of a smart and sustainable HVAC system, by translating academic research into practical code implementations.
- Conducted comprehensive literature reviews on anomaly detection and predictive maintenance in HVAC systems.
- Built an end-to-end forecasting system by designing a Python ETL pipeline and developing time series models for accurate anomaly detection in HVAC systems.
- Developed and deployed PowerBI dashboards with intuitive visualizations to help users identify anomalies at a glance, backed by the time series model.

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[github.com/izack8](https://github.com/izack8)

[izack.dev](https://izack.dev)

## SKILLS

### Programming Languages

Python, Java, Swift, JavaScript, SQL, CLI, HTML, CSS

### Libraries & Frameworks

torch/tensorflow, pandas, Langchain, VectorDB, Streamlit, FastAPI, Springboot, ReactJS, Tailwind CSS

### Tools & Platforms

Git, Docker, Azure, Vercel, Railway

### Certifications

Azure AI Fundamentals, Azure Fundamentals

## PROJECTS

### Codebot

School-assigned capstone project, to study the performance of LLMs between using RAG and fine-tuning. (TL;DR: RAG is better (most contexts))

### Portfolio Website (izack.dev)

Personal website to showcase my projects, skills and experiences

## EDUCATION

### Nanyang Technological University (NTU)

Aug 2020 - Aug 2024

Bachelor's in Electrical and Electronics Engineering w/ a specialization in AI