

Ray Zhang

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EDUCATION

- **National Sun Yat-sen University (NSYSU)**

Master of Information Management (MIS), AI Laboratory

Kaohsiung, Taiwan

Sep 2023 - July 2025(Expected)

- **National Changhua University of Education (NCUE)**

Bachelor of Information Management (MIS)

Changhua, Taiwan

Sep 2019 - June 2023

EXPERIENCE

- **Winbond – Leveraging AI to Improve Manufacturing Operations**

Software Engineer Intern

Taichung, Taiwan

July 2024 - August 2024

- **AI Log Intelligence Platform:** Designed and implemented an AI-powered manufacturing log intelligence system by ingesting factory error-reporting APIs into Elasticsearch, performing data normalization, chunking, and vectorization for downstream LLM-based root-cause analysis and troubleshooting.
- **Multimodal AI Assistant:** Built a production-oriented multimodal AI assistant that processes natural-language queries and image inputs via LangChain-based retrieval pipelines to support manufacturing troubleshooting.
- **System Automation:** Implemented scheduled data ingestion and indexing pipelines to ensure continuously updated operational knowledge for real-time AI-driven decision support.

Impact: Automated analysis of approximately 50 daily manufacturing error cases, resolving about 50% via AI and reducing manual engineer investigations by around 25 cases per day.

- **AI Next Mine – LLMOps and AI Platform Engineering**

Remote

AI Engineer Intern

September 2025 - December 2025

- **Engineering Document & CAD Intelligence Platform:** Built a containerized, API-driven AI platform supporting over 30 document formats and native CAD engineering drawings, enabling real-time visualization, semantic search, and LLM-powered Q&A over structured design data.
- **Multimodal Retrieval:** Designed an LLM-based pipeline integrating speech (via Whisper transcripts), images, and text into a unified vector database for scalable knowledge retrieval.

Impact: Enabled web-based visualization and AI-driven analysis of CAD engineering drawings, eliminating the need for native CAD software and enabling natural-language queries over structured design data.

PROJECTS

- **RAG Chatbot:**

- **LLM-powered Retrieval System:** Built a LangChain-based RAG system with document ingestion, embedding, and vector storage, enabling users to upload files and perform context-aware Q&A via a Streamlit interface.

SKILLS

- **Programming:** Python, Java, C++, C#, TypeScript, SQL

- **Infrastructure & DevOps:** Docker, Microsoft Azure, Git

- **Databases:** MySQL, PostgreSQL, Weaviate

- **AI & Workflow:** LangChain, Elysia, Haystack, n8n

- **Interests:** Generative AI, Smart Manufacturing, Engineering, Investing