

# Ray Zhang

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## EDUCATION

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- **National Sun Yat-sen University (NSYSU)** Kaohsiung, Taiwan  
*Master of Information Management (MIS), AI Laboratory* *Sep 2023 - July 2025(Expected)*
- **National Changhua University of Education (NCUE)** Changhua, Taiwan  
*Bachelor of Information Management (MIS)* *Sep 2019 - June 2023*

## EXPERIENCE

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- **Winbond – Leveraging AI to Improve Manufacturing Operations** Taichung, Taiwan  
*Software Engineer Intern* *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

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- **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

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- **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