Chieh-Jen Wang
(王界人)

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Career Objective

Seeking a Senior Software Engineer role specializing in Artificial Intelligence (AI), Large Language Models (LLM), and Generative Deep Vision (GDV) to drive innovation and improve productivity in industries such as semiconductor manufacturing and retail.

Education

National Taiwan University
Ph.D. in Computer Science and Information Engineering , June 2013, (GPA: 4.07/4.3)
Advisor: Distinguished Prof. Hsin-Hsi Chen, Natural Language Processing Lab

Work Experience

Industrial Technology Research Institute (ITRI)
Technical Deputy Manager/Senior Engineer, July 2013-present

- Over 11 years of data analysis experience in the semiconductor and retail industry
- Coordinated and integrated cross-unit cooperation projects, including the division of labor for technical modules and the integration of R&D resources
- Secured funds more than 35 million from government or industry projects
- Assisted manufacturers in securing over $50 million in government grants

Core Competencies

Large Language Models (LLM)

- Retrieval-Augmented Generation (RAG), Natural Language Generation (NLG), Natural Language Processing (NLP), Summarization

Generative Deep Vision (GDV)

- Anomaly Detection, Object Detection and Segmentation, Image Synthesis, 3D Reconstruction

Selected Projects

Industry Knowledge-Based Large Language Model(LLM)

- Discovered relevant knowledge from structured and unstructured data
- Extracted causal relations to establish a knowledge graph for semiconductor problems
- Researched and implemented a RAG-based model for knowledge discovery
- Achieved a knowledge discovery precision rate higher than 93% and a relation extraction accuracy rate higher than 90%, representing a 54.2% improvement over the original KMS
- Use case: Winbond KMS system

User Behavior-Based Personalized Ad Generation Using Gen-AI

- Achieved 95% accuracy in facial recognition for Asian demographics
- Utilized Gen-AI to analyze customer interactions and produce personalized ads
- Optimized and trained localized Traditional Chinese marketing copy with Breeze-7B
- Developed marketing content generation models using LLM and Stable Diffusion
- Use case: Partnered with Hi-Life, attracting 210k visitors in a month and increasing revenue by NT$500k(Demo Link)

Gen-AI Based Handwritten Form Optical Character Recognition(OCR)

- Developed table detection and recognition models using deep transfer learning, enhancing accuracy in identifying table structures and cell positions
- Automated text recognition from handwritten forms, reducing manual processing time by 50%
- Use case: Carrefour Taiwan's inventory management system(Demo Link)

Additional Skills

- **Deep Learning Frameworks**: PyTorch, TensorFlow, Keras
- **Programming Languages**: Python, Java, C++, SQL
- **Software Development**: Continuous Integration(GitLab), Continuous Deployment (Docker), Project Management (Jira), Software Quality (SonarQube)