

# 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 Deep Computer Vision (DCV) 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 15 years of data analysis experience in the semiconductor and retail industry
- Coordinated and integrated cross-functional 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

#### Deep Computer Vision (DCV)

- 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 of over 93.6% and a response accuracy exceeding 98.7%, representing a 13% improvement compared to 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:** DevOps (GitLab, Jenkins), MLOps (Hugging Face, MLflow), Project Management (Jira), Software Quality (SonarQube)