# ZIH-DWO YEH (DOYLE)

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# Machine Learning Engineer | Software Developer | Cybersecurity Researcher

#### **EDUCATION**

# The Pennsylvania State University

Master of Science in Informatics

University Park, PA, USA

August 2023 – May 2025

Coursework: Computer Security, Software Security, Cybersecurity Analytics, Network Management, Cloud Security, Data Mining, Machine Learning

### **National Taipei University of Technology**

Taipei, Taiwan

Master of Science in Computer Science

September 2021 – July 2023

• Coursework: Pattern-oriented Software Design, Design and Analysis of Algorithms, Cloud Computing, Data Science, Operating Systems, Network Security and Penetration Testing

# National Taipei University of Technology

Taipei, Taiwan

Bachelor of Science in Electrical Engineering

September 2016 - July 2020

• Coursework: Object-Oriented Programming, Computer Networks, Image Processing, Python Programming

#### **SKILLS**

Programming Languages: C++, Python, MATLAB, SQL, JavaScript (or TypeScript)

Development: Node.js, Next.js, Express.js, Tailwind CSS

Machine Learning/AI: PyTorch, TensorFlow, Scikit-Learn, Hugging Face Transformers Packages and Tools: Git/GitHub, Docker, Conda, VSCode, Shell/Bash, Linux, Wireshark

#### **EXPERIENCE**

# **SYSTEX Corporation**

Taipei, Taiwan

IT Intern

September 2018 – June 2019

- Maintained over 100 company workstations and laptops, troubleshooting hardware and software issues to ensure system stability and smooth operation.
- Configured and managed network settings, servers, and edge devices, ensuring compliance with security policies and company standards.
- Performed virus updates using FortiClient, safeguarding company systems from malware threats and optimizing network security.
- Conducted packet analysis with Wireshark to diagnose and resolve network issues related to Ethernet switching and IP routing.

#### **PROJECTS**

#### **Spam Classification API**

2025

- Built a REST API for spam/ham classification using DistilBERT and FastAPI.
- Enabled both server and serverless (AWS Lambda) deployment with Docker support.
- Developed full ML training pipeline including preprocessing, fine-tuning, and evaluation.
- Provided batch and single-message prediction endpoints with confidence scores.

#### Active Retrieval-Augmented Generation (RAG) by Small Language Models (SLMs) 2024 – 2025

- Built a confidence-based active retrieval system enhancing accuracy in multi-hop QA tasks for SLMs.
- Dynamically integrated external knowledge based on real-time model confidence, reducing retrieval overhead.
- Improved Exact Match accuracy by 15–20% on 2WikiMultihopQA dataset across multiple small-scale models (Llama, Gemma, Qwen).
- Achieved near-commercial LLM performance with cost-effective, locally-deployable SLMs.

# Large Language Models (LLMs) Attribution Classifier

2023 - 2024

- Constructed a dataset of 25,000 prompt-completion pairs from five LLMs through an automated pipeline for text extraction, truncation, and labeling.
- Fine-tuned ALBERT, DistilBERT, and RoBERTa (with LoRA adaptation), achieving 67.6% accuracy and a 0.68 macro-F1 score.
- Conducted comprehensive ROC-AUC evaluation and detailed error analysis to identify model-specific confusion patterns, guiding future data augmentation strategies.