Hao-Cheng (Nickson) Ni

Taoyuan, Taiwan

✉ nicksonni518@gmail.com | 🔗 linkedin.com/in/hao-cheng-ni

⧉ github.com/NicksonCheng | 👤 https://nickson.vercel.app

EDUCATION

National Cheng Kung University
Tainan, Taiwan

Master of Science in Electrical Engineering; GPA 3.6/4.3
Sep 2022 - Feb 2025

National Cheng Kung University
Tainan, Taiwan

Bachelor of Science in Computer Science and Information Engineering; GPA 3.39/4.3
Sep 2018 - June 2022

Relevant coursework: Software Design, User Interface Design and Development

WORK EXPERIENCE

Knowledge and Information Discovery Lab
Tainan, Taiwan

Software Engineer/Management Information System Engineer
Sep 2022 - Feb 2025

- Participated in the AIcup 2024 Fall competition on "Application of RAG and LLM in Financial Q&A"; achieved 89.37% accuracy on a dataset of 900 questions, placing in the top 8% with a distinguished performance.
- Developed a online midterm judging system using **PHP**, **JavaScript**, and **SQL**, enabling automated assessments and efficient management of exam submissions
- Managed servers maintenance for the lab, including the **NAS** file system, **Apache** deployment for the lab website, and distribution of training resources on **Linux**

AInimal
Tainan, Taiwan

Software Engineer
Oct 2019 - Dec 2021

- Spearheaded the migration from **Vue.js** and **Cordova** to **React Native**, significantly improving user experience and optimizing performance for a large-scale online dating app with 10K+ active users on Android and iOS
- Improved code quality and maintainability by implementing **ESLint** and **Prettier**, and refactoring **JavaScript** code to **TypeScript** for enhanced type safety and scalability.
- Developed and maintained backend APIs, including **WebSocket** environments, ensuring seamless real-time communication and improving overall app performance

PROJECTS

Relation-aware Heterogeneous Masked Graph Autoencoder
Master's Thesis, Sep 2023 - Dec 2024

- Developed a heterogeneous graph model using **Graph Neural Networks** and **Masked Autoencoders**, integrating **self-supervised learning** and **metapath-free** method for improved representation learning in heterogeneous networks
- The model outperforms state-of-the-art methods, demonstrating superior performance in heterogeneous graph learning
- Submitted to European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases(**ECML PKDD**) for review

Application of RAG and LLM in Financial Q&A (AIcup 2024 fall)
Sep 2024 - Dec 2024

- Integrated **LLM** and **Retrieval-Augmented Generation (RAG)** techniques to develop an effective Financial Q&A model
- Fine-tuned the Multilingual retriever and BAAI reranker within a RAG framework, optimizing the retrieval process to provide the most relevant answers from the question documents
- Achieved 89.37% accuracy on a contest dataset of 900 questions, ranking 42nd out of 487 participants, placing in the top 8%

R-Tree Based Lost Pet Locator
Senior Project, Sep 2020 - June 2021

- Implemented the **R-Tree** algorithm to optimize the search and management of geospatial data for tracking lost pet
- Developed full-stack application using **React Native** and **Node.js**, integrating R-Tree for efficient and seamless functionality
- Used **Expo** to deploy universal native apps for Android and iOS, streamlining both development and deployment

SKILLS

Programming Languages: C/C++, Python, TypeScript, JavaScript, Java, Bash, SQL

Web Development: React.js, Vue.js, Next.js, Node.js, MongoDB, MySQL

Others: Git, Linux, Docker