Kuo, Nai-En

https://imgradually.github.io/

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EDUCATION

- **University of California, San Diego** — La Jolla, CA, USA
  Master of Science in Computer Science and Engineering; GPA: 3.92/4.0 (Credit: 36) — *Sept. 2023 – Mar. 2025*

- **National Yang Ming Chiao Tung University** — Hsinchu, Taiwan
  Graduate Study in Network Engineering; GPA: 4.25/4.3 (Credit: 21) — *Feb. 2021 – July. 2022*

- **National Chiao Tung University** — Hsinchu, Taiwan
  Bachelor of Science in Computer Science; GPA: 3.67/4.3 (Credit: 138) — *Sept. 2017 – Jan. 2021*

EXPERIENCE

- **MediaTek** — San Diego, CA, USA
  Software Engineer Intern — *June. 2024 - Dec. 2024*
  - **Backend Development**: I completed more than 40 features and APIs based on Python Flask and **MongoDB**.
  - **MongoDB optimization**: I optimized the data structure and querying pipeline to shorten response time to 1/3.

- **National Yang Ming Chiao Tung University** — Hsinchu, Taiwan
  Teaching Assistance of Intro. to Network Programming and Machine Learning for Networking — *Oct. 2021 - Jun. 2022*

- **Taiwan Semiconductor Manufacturing Company (TSMC)** — Hsinchu, Taiwan
  Information Technology Intern — *July 4, 2022 - Sept. 2, 2022*
  - **System migration**: I configured and built CI/CD pipeline for migrating system to Kubernetes-based **OKD**.
  - **Service development**: I developed a service using **Java Spring Boot** incorporating CI/CD pipelines and **unit testing** that achieved 2x report processing speed and handled various exceptions in production environment.

- **DBS Bank, Taiwan** — Taipei, Taiwan
  Software Engineer Contractor — *July 2020 - Jan. 2021*
  - **Talent Data Collector**: I programmed **Python** tools that automatically collect talent data online and generate reports using **Selenium** and **Pandas** to assist in the company biggest recruitment plan for 30 software engineers.
  - **Phone dialing Line Chatbot**: I designed a **Flask** based Chatbot on a widely used instant messaging app Line. It was built with **Heroku** and **PostgreSQL** database that helps people make an instant phone call through **Twilio**

COMPETITIONS

- **AIS3 EOF CTF 2021** — Taipei, Taiwan
  Rank: 10 *in Final round, Team of 4: TLSC. I focused on cracking cryptographical vulnerability.* — *Feb. 6-7, 2021*

- **2020 ICPC Asia Taipei-Hsinchu Site Programming Contest** — Taipei, Taiwan
  Bronze medal*, Team of 3: NCTU_KokushiMusou, my ICPCID:* **C300DHLH34B2** — *Nov. 07, 2020*

- **2020 Mei-Chu Hackthon** — Hsinchu, Taiwan
  3rd place. *We made a tweet sharing application based on LINE Front-end Framework:* **Github Repo** *Oct. 24-25, 2020*

COURSEWORK PROJECTS

- **FPGA Parallel Programming**: Using Vitis HLS to implement FIR, CORDIC, FFT and BNN on Pynq Z2.
- **Network System**: Golang implementation of RAFT, a consensus algorithm for distributed systems.
- **Parallel Computation**: GeMM on CPU, GPU and a SDSC supercomputer with vectorization, **CUDA** and **MPI**
- **Compiler**: It's implemented in lex, **Bison**, and C++ generates **RISC-V** assembly for a **P** program.

PROGRAMMING SKILLS

- **Languages**: Python, C/C++, Java, CUDA, Haskell, Golang, Javascript, PHP, HTML/CSS, SQL, P4
- **Technologies**: MongoDB, Plotly, OpenMPI, Kubernetes, Git, Spring Boot, Unity, Linux, Docker, Selenium, Qiskit

PUBLICATION

- **S.Y. Wang and N.E. Kuo. Using programmable p4 switches to reduce communication costs of parallel and distributed simulation**: In 2022 IEEE Globecom, 2022.
- **N.-E. Kuo, Y.-C. Chu, and R.-J. Chen. Quantum computation and shallow circuit experiment**: In Proceedings of the 37th Workshop on Combinatorial Mathematics and Computation Theory, 2020.