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 – Dec. 2024*

National Yang Ming Chiao Tung University Hsinchu, Taiwan
Master of Science in Network Engineering; GPA: 4.25/4.3 (Credit: 21, Dropped out) *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
5G Wireless Software Engineer Intern *June. 2024 - Present*
- **3GPP Spec Study**: Mainly focused on 24.501 **NAS** layer protocol for 5G Mobility Management.
- **Backend Development**: Backend services developed with Python and **MongoDB**.

Taiwan Semiconductor Manufacturing Company (TSMC) Hsinchu, Taiwan
Information Technology Intern *July 4, 2022 - Sept. 2, 2022*
- **System migration**: from virtual machine to Kubernetes-based **OKD**.
- **Service development**: I developed a job dispatching service using **Java Spring Boot** incorporating CI/CD pipelines and **unit testing** that successfully resolved a bottleneck situation in production environment.

DBS Bank, Taiwan Taipei, Taiwan
Software Engineer Contractor *July 2020 - Jan. 2021*
- **Talent Data Collector**: A **Python** script that automatically collect talent data online and generate reports using **Selenium** and **Pandas** to assist in a recruitment plan of 30 software engineers.
- **Phone dialing Line Chatbot**: A **Flask** web application that was built on **Heroku** with **PostgreSQL** database that helps you make a instant phone call through **Twilio** on a widely used instant messaging app Line.

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

- **Parallel Computation**: GeMM on CPU, GPU and a real supercomputer with vectorization, **CUDA** and **MPI**
- **Multifunctional Aerial Gazer**: Face tracking drone (DJI Tello EDU) using **OpenCV**, **TensorFlow** and **MediaPipe** for face detection, head pose estimation and hand gesture recognition. **Github Repo**
- **SAT solver**: C++ implementation of **CDCL**-based heuristic alogrithm to solve **SAT** (NP-complete) problem.
- **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, 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.