Kuo, Nai-En

https://imgradually.github.io/

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EDUCATION

University of California, San Diego — La Jolla, CA
Master of Science in Computer Science and Engineering; GPA: 4.0/4.0 (Credit: 24) — *Sept. 2023 – Jun. 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

Taiwan Semiconductor Manufacturing Company(TSMC) — Hsinchu, Taiwan
Information Technology Intern — *July 4, 2022 - Sept. 2, 2022*

- **System Migration**: I migrated a system from virtual machine to **Kubernetes**-based system OKD.
- **Job Dispatching Solution**: I developed a job dispatching service utilizing **Java Spring Boot**, incorporating **CI/CD** and **unit testing**, effectively managing bottleneck situations in the production environment.

DBS Bank, Taiwan — Taipei, Taiwan
Information Technology Contractor — *July 2020 - Jan. 2021*

- **Real-time speech emotion recognition**: Proof-of-concept implementation of transfer learning using **Pytorch**
- **Talent Data Collector**: Web-baesd talent data collector and report generator using **Selenium** and **Pandas**.
- **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

2021 Microsoft x TSMC IT CareerHack — Online
*In 24 hours, we made a **mixed reality** cooking simulator on **HoloLens** with **Unity**: Github repo* — *Jan. 24-25, 2021*

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

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

PROJECTS

- **Recommender System**: Implementation of Bayesian Personalized Ranking and Latent-factor Model using Keras.
- **Haskell Snake Game**: A double player snake game programmed with functional programming language **Haskell**.
- **Multifunctional Aerial Gazer**: Face tracking drone (DJI Tello EDU) using OpenCV, TensorFlow and MediaPipe for face detection, head pose estimation and hand gesture recognition.
- **SAT solver**: C++ implementation of CDCL-based heuristic alogrithm to solve **SAT** (NP-complete) problem.
- **Compiler**: It's implemented in lex, Bison, and C++. It generates RISC-V **assembly** for a P program.

PROGRAMMING SKILLS

- **Languages**: Python, C/C++, Java, Javascript, PHP, Haskell, HTML/CSS, SQL, P4
- **Tools**: Kubernetes, Git, Spring Boot, Azure, Unity, Linux, Docker, GCP, AWS, Heroku, Selenium, IBM 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.