HSUEH YUAN, KU

denon@xueyuan.dev

EDUCATION

Georgia State University   2023 - Present
MS, Computer Science, GPA: 3.8
National Taiwan University of Science and Technology   2016 - 2020
BS, Computer Science and Information Engineering
Thesis Dissertations: Hsuehyuan Ku, Yuxiang Lin, and Shinming Cheng, "Spreading False Public Warning Messages through a Forged LTE Base Station", *CISC 2020*

SKILLS

C/C++, Golang, Python, Rust, JavaScript, Vue.js, WebSocket, RabbitMQ, PostgreSQL, Redis, MongoDB, ELK, Docker/K8S, Nginx, GCP

WORK EXPERIENCE

TeamT5   Taipei, Taiwan
Backend Engineer   *Jun 2022 - Jul 2023*

- Implemented pytest-based unit and integration test extensions, significantly improving code quality and service reliability.

- Developed an automated documentation system that generates Swagger documentation and test environments for each pull request, streamlining the development process for the team.

- Revamped the core service architecture, replacing the Twisted framework with the Sanic framework, resulting in a 20-30% increase in QPS.

Ucfunnel   Taipei, Taiwan
Backend Engineer   *Apr 2021 - May 2022*

- Designed and implemented a product upload system using a message queue for efficient batch processing, which replaced the original user batch upload process that caused page blocking, thereby enhancing user experience.

- Developed a live streaming service integrated with WebSockets, enabling real-time synchronization between Facebook Live and chat, allowing seamless streaming on our platform.

- Designed and implemented a webhook service tailored to our customer's needs.

- Improved advertising search performance by 47% through the use of Redis and lazy loading.

- Established CI/CD pipelines and implemented database failover clustering, enhancing development efficiency and system stability.

NICT   Tokyo, Japan
Internship   *Jan 2020 - Feb 2020*

- Designed and developed visualization software and a scoreboard for the Capture The Flag (CTF) contest.

LEADERSHIP

Project Leader @ Ucfunnel   *Aug 2021 - Dec 2021*

- Led a cross-functional team of 3 engineers and 1 project manager in developing an e-commerce platform.

- Optimized team productivity and project outcomes by efficiently allocating human and technical resources.

PROJECTS

- **Hephaestus** Developed a personal utility suite including Instagram post uploader and Spotify music downloader. Developed primarily using Electron.js and Vue.js, some features implemented in Python.

- **Dionysus** Collaborated with a friend to develop a cocktail recipe query system. Responsibilities included leading architectural design, mentoring in backend development, ensuring best practices adherence, and contributing to frontend development for enhanced user experience. The project focused on developing my friend's backend skills while delivering a functional and well-maintained system for cocktail recipe queries.

- **Talkaway (Startup Project)**: Led the system design and development of an AI tutor, collaborating with a project manager and two engineers. Responsible for designing the overall system architecture, conducting feasibility research, and leading backend development using FastAPI. Also contributed to partial mobile development using Flutter.

- **Spoofing Alert (Thesis/Research Project)**: Established a research setup involving a simulated base station and utilized open-source SDN (srsLTE) in C++ to implement SIB 10, 11, and 12 for sending false presidential alerts for research purposes.

- **Policy Petition Website**: Developed a website using HTML, vanilla JavaScript and Bootstrap dedicated to petitioning against a specific policy. The site includes campaign materials and informative speeches, accessed by over 1000 users.

- **Redi (URL Shortening Service)**: Developed a URL shortening service using Vue.js for the frontend and Golang for the backend, integrated with Redis and PostgreSQL. The service has an active user base of over 100 users.

- **Lingram**: Created a Telegram bot capable of converting Line stickers into Telegram stickers.

- **Phorm**: Developed a Python package designed for automating the filling out of Google Forms.