

HSUEH YUAN, KU

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EDUCATION

Georgia State University

2023 - Present

MS, Computer Science

National Taiwan University of Science and Technology

2016 - 2020

BS, Computer Science and Information Engineering, Major GPA: 3.2

Thesis Dissertations: Hsuehyuan Ku, Yuxiang Lin, and Shinming Cheng, "Spreading False Public Warning Messages through a Forged LTE Base Station", *CISC 2020*

SKILLS

Programming C, C++14, Golang, Python, JavaScript, Shell

Techniques WebSocket, RabbitMQ, PostgreSQL, Redis, MongoDB, ELK, Docker/K8S, Nginx

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.
- Created a document system that automatically generates Swagger documentation and test environments for each pull request, streamlining the development process for other team members..
- Revamped the core service architecture, resulting in a 20~30% increase in QPS.

Ucfunnel

Taipei, Taiwan

Backend Engineer

Apr 2021 - May 2022

- Designed a product upload system with a message queue for efficient batch processing, 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.
- Implemented a webhook service customized to our customers' needs.
- Improved advertising search performance by 47% through Redis and lazy loading.
- Established CI/CD pipelines and implemented database failover clustering for enhanced development efficiency and system stability.

NICT

Tokyo, Japan

Internship

Jan 2020 - Feb 2020

- Designed and executed the development of 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 comprising 3 engineers and 1 project manager in the development of an e-commerce platform.
- Oversaw the efficient allocation of both human and technical resources, optimizing team productivity and project outcomes.

Leader of Department Basketball Team @ NTUST

Sep 2018 - Jun 2019

President of Student Association of Computer Science Department @ NTUST

Sep 2017 - Jun 2018

- Co-hosted a university assembly with NTUST and successfully increased the Students' Association's budget by 20%.
- Used the increased budget to sign contracts with 15 nearby stores to provide student discounts.

PROJECTS

- **Talkaway (Startup Project):** Led the design and development of an English AI tutoring. I was responsible for designing the overall system architecture, feasibility research, backend development(Python/FastAPI), and partial mobile development(Swift/IOS). Anticipated product launch in the upcoming spring.
- **Spoofing Alert (Thesis/Research Project):** Establishing a malicious base station and leveraging open-source SDN (Software-Defined Networking) to implement SIB 10, 11, and 12 for sending simulated presidential alerts.
- **Policy Petition Website:** This is a website for petitioning against a specific policy, which includes campaign materials, speech information, and has a backend with editable content. It is accessed by 1000+ users.
- **Red (URL Shortening Service):** Built a URL shortening service with an active user base of over 100, utilizing Vue.js, FastAPI, Redis, and PostgreSQL.
- **ABRB:** Developed an arbitrage program designed for the blockchain market, projected to achieve an expected internal rate of return exceeding 3%.
- **Lingram:** This is a Telegram bot that can help you package Line platform stickers for use on Telegram.
- **Phorm:** This is a Python package that can be used to fill out Google Forms.
- **Lightweight Web Server:** Created a web server and common gateway interface using C, capable of serving both static and dynamic content.