Yin-Hsuan, Liao

National Yang Ming Chiao Tung University, Taiwan
M.S., Institute of Network Engineering, Sep 2021 - Dec 2023
B.S., Double Major in Mechanical Engineering and Computer Science, Sep 2016.09 - Jun 2021
University of Mannheim, Germany
Exchange Student, School of Business Informatics and Mathematics, Aug 2023 - Dec 2023

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personal portfolio

WORK EXPERIENCES

Software Engineer, Mediatek, Taiwan, Jan 2024 - Apr 2025 — C/Python/Bash/Git

- Developed a software integration pipeline to implement MIMO power-saving features, achieving a **7.34%** power reduction
- Optimized software wake/sleep flow based on Wi-Fi protocol specifications, leading to a **34%** reduction in power consumption
- Verified low-power functionality on FPGA and tape-out ICs for new hardware designs using ADB and CodeViser to ensure robustness and correctness

Software Engineer Intern, Microsoft, Taiwan, Jun 2020 - Jun 2021 — ASP.NET MVC/TypeScript/C#/SQL

- Developed a web application using the ASP.NET MVC framework to enhance healthcare professionals' efficiency in searching and accessing patient information
- Implemented frontend data visualization for billing using Knockout.js and developed backend services in C# to process and retrieve data from MSSQL and successfully addressed **40+** billing-related issues
- Achieved the Microsoft Certified: Azure Fundamentals

PUBLICATIONS

[2021 TAICHI Poster] A Notification Management System for: Sorting and Classifying Smartphone's Notifications

Java/Android Studio

- Developed an application to manage high volumes of notifications, enabling users to efficiently receive, prioritize, and access important messages through three intuitive actions: sorting, classifying, and pinning

PROJECTS

Software Backplane Design for the Real-time Monitoring and Visualization System in Optical Edge Data Center

ReactJS/ExpressJS/SQL/SDN/Java/Python

- Developed a monitoring system for an optical edge data center system to visualize system traffic across 4 key metrics—real-time system load, traffic distribution, resource utilization, and system capacity—as well as RTT differences under 8 fault scenarios
- Created automated testing pipelines using shell scripts, improving testing efficiency by **32%** by reducing overall testing time

High-Performance Reinforcement Learning Optimization — Python/PyTorch/MPI/CUDA

- Parallelized the Reinforcement Learning training process of OpenAI Gym using CUDA and MPI, achieving a **78%** reduction in training time with MPI and **60%** with CUDA

SDN-Based Network with VLAN Isolation for Multi-Tenancy — RYU/Mininet/Python/Linux

- Designed a virtual data center network using Mininet and the RYU SDN controller, enabling tenant-level network isolation through VLAN-based network virtualization and dynamic flow table management for tenant-specific packet routing

Dynamic Flow Rule Configuration for SDN-Based Network — ONOS/ Mininet/ Java/ Wireshark/Linux

- Developed and implemented network applications including a unicast-DHCP solution, ARP-proxy for IP-MAC mapping, and VLAN-based segment routing with label-based packet forwarding across software-defined networks

RELEVANT COURSES

Network Programming/ Computer Communication Networks/ Software Defined Networks and Network Function Virtualization