

Yu-Chung Cheng

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Objective & Summary

I am an experienced software engineer pursuing a Master's in Computer Science at Virginia Tech, specializing in deep learning. My professional background spans AIoT, Cloud Systems, and Multimedia Frameworks, with notable achievements in developing real-time object detection systems and managing scalable cloud infrastructures. My research at National Tsing Hua University, under Prof. Youn-Long Lin, focused on enhancing the performance of OpenFlow Switches, reflecting my capacity for detailed and pioneering study. This blend of industry experience and academic inquiry forms a solid base for my deep learning aspirations. Eager for new opportunities, I am prepared to contribute innovatively to the AI field.

EDUCATION

Virginia Tech

Master's in Computer Science, AI

2023–Present

- **Courses:** Advanced Machine Learning, Introduction to Deep Learning, Data Analytics, Learning-based Computer Vision, Information Retrieval, Introduction to Artificial Intelligence

National Tsing Hua University

Master's in Computer Science, Network Optimization

2014–2017

- **Thesis:** Performance Improvement of OpenFlow Switch with Queue and Per-port Cache

Tamkang University

BBA in Information Management

2011–2014

- **Capstone Project:** Restaurant ordering system (POS system)

RESEARCH EXPERIENCE

National Tsing Hua University

Research Assistant

2014–2017

- Conducted research on performance improvement of OpenFlow switches, focusing on queue and per-port cache optimizations. Explored virtualization technologies, heterogeneous computing, and algorithms in software-defined networking, under the guidance of Prof. Youn-Long Lin.

EXPERIENCE

Deep Sentinel Inc. - Pleasanton, CA/Taipei

March 2021 - November 2022

Senior Software Engineer

- Developed a real-time object detection system with our pre-trained model, enhancing system performance
- Pioneered cloud-based microservices on GCP, focusing on scalable infrastructure conducive to machine learning applications
- Optimized data storage and retrieval processes, critical for efficient training and deployment of a large-scale AI system

RealTek Inc. - Taipei

September 2020 - March 2021

Senior Software Engineer

- Designed a memory-efficient key-value database for power management storage
- Mentored new engineers in systems engineering and best practices

RealTek Inc. - Taipei

April 2017 - September 2020

Software Engineer

- Enhanced networking performance and memory management in embedded systems
- Developed a cross-OS message communication interface to streamline device interactions
- Optimized toolchain, such as LLVM, post-linker, and bootloader, to achieve lower memory utilization

ACADEMIC EXPERIENCES

Teaching Assistant

National Tsing Hua University

- Digital Logic Design
- Programming Top Ten Important Algorithms in Python

2015

2016

Project

Virginia Tech

- Data Augmentation in Image Segmentation with Diffusion Model
- Text Prompting in Generative AI (Conditional diffusion model)
- Cloud Data Computing with Neon (Database as a service)
- Data Infrastructure Team Leadership - DevOps for MLOps
- Multiple Object Tracking with GAN
- MaskGit for Image Generation with label

2023

2023

2023

2023

2023

2023

TECHNICAL SKILLS

Programming Languages	Python, C, C++, Rust, Java, Javascript, Lua, Scala
Technologies	Pytorch, TensorFlow, CUDA, OpenCV, Gstreamer, Docker, Kubernetes, Grafana, Git, Redis, Postgres, MySQL, ELK, Kafka, IoT protocols, DTLS/TLS, SDN, WebRTC, OS Kernel, Toolchains, Distributed System

ADDITIONAL

- Certifications: Machine Learning Foundations - Mathematical Foundations, Cryptography I, Machine Learning