# LUN-YU YUAN

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# **OBJECTIVE**

Highly motivated master's student with a strong foundation in both hardware and software. Working independently and collaboratively with exceptional problem-solving skills. Seeking a role to apply my comprehensive knowledge and technical skills.

# **EDUCATION**

#### Universität Stuttgart, Stuttgart, Germany

OCT 2022 - May 2025

M.Sc. Information Technology - Specialization in Computer Hardware/Software Engineering

- Research Project: Interpretability Study of Large Language Models with Probing Techniques
- Master Thesis: <u>Training LLMs on domain-specific knowledge base with reinforcement learning based on preference data</u> (In progress)

# Chung Yuan Christian University, Taoyuan, Taiwan

SEP 2017 - JUN 2021

B.Sc. Electrical Engineering - Specialization in Communication and control systems

#### **WORKING EXPERIENCE**

# Institute for Parallel and Distributed Systems (IPVS), Universität Stuttgart

JUN 2023 - MAR 2025

Research Assistant

 Researched deterministic communication for **Time Sensitive Networks (TSN)** and developed C++ simulation in **OMNeT++/INET** framework for wired-wireless network communication in the Deterministic6G project.

#### PROJECTS & EXTRACURRICULAR

# Training LLMs on domain-specific knowledge base with reinforcement learning based on preference data Link

NOV 2024 - MAY 2025

• Fine-tuned the LLaMA-3 model on domain-specific synthetic data using **PyTorch** by optimizing **Direct Preference Optimization (DPO)** to enhance alignment with preference-based training objectives.

# **DETERMINISTIC6G** Link GitHub

JUN 2023 - MAR 2025

- Integrated **IEEE 802.1AS** with **Deterministic6G** framework enabling reliable cross-network communication between wired and wireless domains.
- Implemented timestamping subsystem with delay management; created simulation models for industrial applications

#### **INET Framework** Link

IUN 2023 - MAR 2025

- Implemented IEEE 802.1AS gPTP protocol for precise time synchronization in TSN simulations.
- Developed multi-domain synchronization and models demonstrating gPTP in various network topologies.

# Interpretability Study of Large Language Models with Probing Techniques Link

NOV 2023 - APR 2024

• Applied **Logit-Lens** and **Tuned-Lens** techniques to analyze the LLaMA-2-7B model using Python and **PyTorch**, uncovering interpretable signals within LLM decision-making processes.

# Canny Edge Detection with GPU Acceleration (OpenCL) Link

IAN 2024 - MAR 2024

Applied OpenCL, OpenCV and C++ to achieve Canny Edge Detection on GPU acceleration.

# SKILLS

**Programming Languages:** Python, C/C++, Shell Script, Rust, Solidity

Tools: Git, PyTorch, Linux, openCL

Languages: Chinese (Native), English (IELTS 6.0), German (Completed B1 level course at Goethe-Institut Taipei)