

Yi-Chi Lee

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Education

The University of Texas at Austin

Austin, TX, USA

Master of Science in Computer Science

May 2026 (Expected)

- Relevant Coursework: Advanced Operating Systems, Secure Systems, Parallel Computing

National Yang Ming Chiao Tung University (National Chiao Tung University)

Hsinchu, Taiwan

Bachelor of Science in Computer Science

Jun 2023

- GPA: **4.1/4.3 (Dean's List x2)**

- Relevant Coursework: Compiler Design, Operating Systems Design and Implementation

Experience

The University of Texas at Austin

Austin, TX, USA

Teaching Assistant for Human-Computer Interaction

Aug 2024 - Present

- Help 30 students overcome challenges by guiding their project development and answering course-related questions.
- Evaluate and provide feedback on students' paper responses, reviewing 4 papers per week.

SiFive Inc.

Hsinchu, Taiwan

Software Engineering Intern at Compiler Team

Sep 2022 - Sep 2023

- Developed tools with **LLVM** to extract hot paths from broad benchmarks, accelerating compiler optimization development.
- Designed micro-benchmarks for evaluating the profitability of vectorization across diverse compiler versions and options.
- Created a workflow for benchmarking on FPGA and RTL simulator for precise performance comparison.

Kapito Inc.

Hsinchu, Taiwan

Software Engineering Intern

Jul 2022 - Aug 2022

- Built automatic CI/CD workflows with Drone CI, improving the efficiency of servers managing inference requests.
- Designed an AI training and inference pipeline, pioneering a shift to NVIDIA's TAO Toolkit and Triton Inference Server.
- Constructed a **Kubernetes** cluster for Triton, effectively processing real-time object detection from mobile camera inputs.

National Yang Ming Chiao Tung University

Hsinchu, Taiwan

Research Assistant

Jul 2021 - May 2024

- Developed an intelligent notification system on **Android** with **100+ downloads** and researched how AI affects/enhances user interaction with notifications through user interviews and quantitative analysis.
- **Publications:** 4 papers published at the top conferences in HCI (CHI and Ubicomp-ISWC). [[Google Scholar](#)]

Projects

Rowhammer-Sim || C, Linux Kernel, QEMU

Fall 2024

- Developed a **kernel module** that registers a character device, simulating bit-flip in physical memory.
- Exploited bit-flips in page tables to trigger the Rowhammer attack, leading to arbitrary memory access.

RPI-OS || C, Arm Assembly, CMake

Spring 2023

- Implemented an operating system with features such as interrupts, context-switching, virtual memory, and process fork.
- Utilized **QEMU** and **GDB/LLDB** for efficient pre-deployment debugging, ensuring smooth operation on Raspberry Pi 3b.

FFrust || Rust

Fall 2022

- Implemented Cooley-Tukey algorithm using diverse parallel strategies, including **multi-threading** and **SIMD**.
- Analyzed assembly code and utilized performance tools to identify efficiency determinants in various implementations.

PLang Compiler || C++, Lex, Yacc

Spring 2022

- Designed a compiler for **RISC-V architectures**, handling lexical/syntax parsing, semantic analysis, and code generation.
- Applied Visitor Design Pattern for structured code traversal and integrated unit testing for enhanced reliability.

Languages & Technology

Programming Languages: C, C++, Python, Rust, Kotlin, Shell Script, JavaScript, Verilog, OCaml

Tools & Frameworks: Linux, QEMU, LLVM, GDB, KGDB, Git, CMake, MongoDB, CUDA, OpenCL

Leadership & Extracurricular Activities

- **President** of HSNU & ZSGH Alumni Association at NYCU
- **Senior Member & Podcaster** of Late Night Film Festival & Free Screening Room Podcast