

# Wei-Hsin Yen

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🔗 zackyen0603

## Education

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<b>MS</b>	<b>National Central University</b> , Computer Engineering	Sept 2022 – July 2024
	<ul style="list-style-type: none"><li>• GPA: 4.15/4.3 in below courseworks</li><li>• <b>Coursework:</b> Computer Architecture, Linux Operating System, The Attack and Defense of Computers, Computational Geometry, Programming Language Design, Object-Oriented Analysis and Design</li></ul>	
<b>ES</b>	<b>Meiji University</b> , Japanese Literature	Sept 2018 – Feb 2019
<b>BS</b>	<b>National Taiwan Normal University</b> , Computer Science and Geography (Double Major)	Sept 2016 – June 2022

## Technical Skills

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**Languages:** C, C++, Java, Python

**Systems & Development:** Linux, Shell Script, Git, Docker

**Web Development:** React, Next.js, HTML, PHP, JavaScript, TypeScript

## Projects

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### UML Editor

[Github Link](#)

- Developed a UML diagram editor using Java, following Object-Oriented Analysis and Design (OOAD) principles.
- Implemented functionalities for creating and modifying class diagrams, adding associations, and interactive editing.
- Designed an event-driven UI with intuitive drag-and-drop, scaling, and connection features.
- Applied modular design to separate concerns such as graphics rendering, event handling, and data storage, enhancing maintainability and scalability.
- Tools Used: Java, Swing

### JudgeCoder

[Github Link](#)

- Developed an automated code generation and validation system using Large Language Models (LLM).
- Integrated Chain-of-Thought reasoning to refine LLM-generated code based on test results, improving GPT-3.5-turbo's performance on the HumanEval benchmark.
- Implemented automated code testing: LLM-generated code is tested against auto-generated unit tests, collecting and analyzing errors.
- Designed a modular architecture, dividing functionalities into code generation, test data creation, test execution, and result evaluation.
- Tools Used: Python, C++, Shell Script, ChatGPT API

### Linux Operating System Project

[Notion Writeup Link](#)

- Explored Linux system internals by tracing source code and implementing custom system calls.
- Designed a system call to validate memory segment sharing and isolation across different processes, calculating start addresses, end addresses, and sizes.

- Extended the system call `sys_vir2phy` to traverse the Page Table and convert virtual addresses to corresponding physical addresses.
- Added a system call to count process context switches within a given time interval.
- Tools Used: C, Linux, Bash

### Personal Website

[Link](#)

- Developed a personal website using Next.js to showcase projects and personal background.
- Integrated GitHub for data storage and deployed via Vercel, utilizing Edge Functions for real-time updates.
- Tools Used: Next.js, TypeScript, CSS, git

## Work Experience

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**Department of Computer Science, National Central University**, Teaching Assistant, Compiler Design

Sep 2022 - Feb 2023

- Guided students in using LEX and Yacc for lexical analysis, syntax analysis, IR conversion, and optimization.
- Assisted in grading and testing compiler projects.

**Department of Computer Science, National Central University**, Teaching Assistant, Python Programming

Feb 2023 - Jul 2023

- Assisted students in learning fundamental Python concepts, including development environment setup, version control (Git), and debugging techniques.
- Developed and maintained an online Python programming grading system (Online Judge).
- Graded assignments, provided student feedback, and evaluated team projects.

## Publications

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**Enhancing Code Generation Accuracy through the Addition of LLM Judging Units in a Multi-Agent System**

July 2024

*Wei-Hsin Yen*, YungYu Zhuang

[NDLTD in Taiwan](#)

**A Static Analysis Approach for Detecting Array Shape Errors in Python.**

Jan 2025

YungYu Zhuang, Chien-Wen Kao, *Wei-Hsin Yen*

[Journal of Information Science and Engineering \(JISE\), Special Issue on Cross-domain Software Development and Application Technologies.](#)