

Wei-En (Wayne), Tsai

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EDUCATION

University of Washington <i>M.S. in Technology Innovation (Focus: Computer Science), College of Engineering.</i>	Sept. 2024 - Present
National Tsing Hua University <i>M.S. in Information Security. GPA:4.2/4.3</i>	Sept. 2021 - Jan. 2023
National Tsing Hua University <i>B.A. in double specializations in Computer Science and Quantitative Finance. Last 60 Credits GPA:3.86/4.3</i>	Sept. 2017 - Jun. 2021

ENTREPRENEURSHIP & INDUSTRY EXPERIENCE

De.Vote Inc. Hsinchu, Taiwan <i>Backend Engineer, Founder and CEO (5-person student startup)</i>	Aug. 2022 - Aug. 2024
<ul style="list-style-type: none">Architected and led development of a high-performance voting system processing 500+ TPS using Ruby, with Puma multi-process workers for scalability, Rack middleware for request handling, and Roda for RESTful APIs. Secured a patent for the novel proxy voting method. (See "Publication & Patent" section for more details)Achieved national top 20 startup ranking in Taiwan's 2022 FITI (From IP to IPO) program.	
Aisen Technology Co., Ltd. Hsinchu, Taiwan <i>Full Stack Engineer, Founder and CEO (2-person student startup)</i>	Jul. 2019 - Aug. 2024
<ul style="list-style-type: none">Developed a full-stack solution leveraging WebGazer.js, React, Node.js, MongoDB, and AWS for cloud infrastructure, reducing application costs by 99% using webcam+ML to replace dedicated eye-tracker.Secured a US\$14,000 USD Grant from the Taiwan government in 2023 through delivering innovative technical solutions addressing social welfare needs.	
Advantech Co., Ltd. Taipei, Taiwan <i>Software Engineering Intern. Awarded Best Intern.</i>	Jul. 2019 - Aug. 2019
<ul style="list-style-type: none">Developed a vulnerability scanner web app using Python Flask for the backend, and MongoDB for data storage. Deployed on Kubernetes with CI/CD using Jenkins. Successfully launched on a industrial PaaS marketplace.Identified and resolved critical security vulnerabilities, reducing potential data breach risk by 25%.	
Cybersecurity Talent Incubation Program Ministry of Education, Taiwan <i>Advanced Cybersecurity Mentorship Program Participant (Top 1% National Cybersecurity Talent)</i>	Oct. 2017 - Sep. 2021
<ul style="list-style-type: none">Conducted research on router vulnerability exploitation, excelled in advanced CTF and industrial training.	

PUBLICATION & PATENT

The ACM Symposium on User Interface Software and Technology (UIST)@SF, US <i>Aisen - Web-Based Gaze-Tracking Assistive Communication Interface with Word Cards Generated by LLMs</i>	Oct. 2023
The 33rd VLSI Design / CAD Symposium <i>iWalkSafe - Wearable Navigation Assistance for the Visually Impaired Based on Miniaturized Edge AI</i>	Aug. 2022
Method and System for Proxy Voting Taiwan Intellectual Property Office <i>Primary Inventor of an efficient, user-centric and privacy-enhanced proxy voting method. ID: 112210061 (Granted)</i>	Sept. 2023

SELECTED PROJECTS & AWARDS

idLab eID: Practical eID Solution for Schools and Enterprises

- Single-handedly engineered a scalable **eID system** for **National Tsing Hua University**, utilizing a **distributed architecture** with **Amazon SQS** for message queuing and **WebSocket** for real-time updates.

OTHER SKILLS

Programming Languages & DB: Python, Ruby, C/C++, JavaScript, Shell Script, Perl, MongoDB, Postgres

Frameworks: Roda, Ruby on Rails, Flask, React, React Native, Node.js, Bootstrap, Tailwind CSS

Tools & Platforms: Git, Docker, Kubernetes, Jenkins, Ansible, AWS, GCP, Azure, Heroku, Proxmox

Related Courses:

Software Studio (A+), The Attack and Defense of Computers (A+), Linux Operating System Kernel (A+), Network Security (A+), Service-Oriented Architecture (A+), Intro to Embedded System (A-), Intro to IoT (A-)