

# Wei-En (Wayne), Tsai

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## EDUCATION

<b>University of Washington</b> <i>M.S. in Technology Innovation (Focus: Computer Science), College of Engineering.</i>	Sept. 2024 - Present
<b>National Tsing Hua University</b> <i>M.S. in Information Security. GPA:4.2/4.3</i>	Sept. 2021 - Jan. 2023
<b>National Tsing Hua University</b> <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

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

## PUBLICATION & PATENT

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

## SELECTED PROJECTS & AWARDS

<b>idLab eID: Practical eID Solution for Schools and Enterprises</b>
<ul style="list-style-type: none"><li>Single-handedly engineered a scalable <b>eID system</b> for <b>National Tsing Hua University</b>, utilizing a <b>distributed architecture</b> with <b>Amazon SQS</b> for message queuing and <b>WebSocket</b> for real-time updates.</li></ul>

## OTHER SKILLS

**Programming Languages:** Python, Ruby, C/C++, JavaScript, Shell Script, Perl

**Frameworks:** Roda, Ruby on Rails, Flask, React, 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-)