

# Wei-En (Wayne), Tsai

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## EDUCATION

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

## ENTREPRENEURSHIP & INDUSTRY EXPERIENCE

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| <b>De.Vote Inc.</b><br><i>Backend Engineer, Founder and CEO (5-person student startup)</i>   | Aug. 2022 - Aug. 2024 |
| <ul style="list-style-type: none"><li>Architected and implemented a secure voting system using <b>Ruby</b> with <b>Puma</b> as the web server, <b>Rack</b> as middleware, and <b>Roda</b> as the web framework, backed by <b>PostgreSQL</b>. Focused on ensuring user privacy and cryptographic data integrity, with our patented security measures.</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><br><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% through using webcam+ML to replace dedicated eye-tracker.</li><li>Secured a 14,000 USD Grant from the Taiwan government in 2023 through delivering innovative technical solutions that addressed social welfare needs.</li></ul>         |                       |
| <b>Advantech Co., Ltd.</b><br><i>Software Engineering Intern. Awarded Best Intern.</i>   | Jul. 2019 - Aug. 2019 |
| <ul style="list-style-type: none"><li>Developed a web app vulnerability scanner using <b>Python Flask</b> for the backend, <b>MongoDB</b> for data storage. Deployed on <b>Kubernetes</b> with CI/CD using <b>Jenkins</b>. Successfully launched on a marketplace.</li><li>Identified and resolved critical security vulnerabilities, reducing potential data breach risk by 25%.</li></ul>  |                       |
| <b>Cybersecurity Talent Incubation Program Ministry of Education</b><br><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

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| <b>The ACM Symposium on User Interface Software and Technology (UIST)@SF, US</b><br><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><br><i>iWalkSafe - Wearable Navigation Assistance for the Visually Impaired Based on Miniaturized Edge AI</i>   | Aug. 2022  |
| <b>Method and System for Proxy Voting Taiwan Intellectual Property Office</b><br><i>Primary Inventor of an efficient, user-centric and privacy-enhanced proxy voting method. ID: 112210061 (Granted)</i> | Sept. 2023 |

## SELECTED PROJECTS & AWARDS

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| <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>, utilizing a <b>distributed architecture</b> with <b>Amazon SQS</b> for message queuing and <b>WebSocket</b> for real-time updates. Awarded the innovation award ~\$5000 USD.</li></ul> |

## OTHER SKILLS

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| <b>Programming Languages:</b> Python, Ruby, C/C++, JavaScript, Shell Script, Perl  |
| <b>Frameworks:</b> Roda, Ruby on Rails, Flask, React, Node.js, Bootstrap, Tailwind CSS   |
| <b>Tools &amp; Platforms:</b> Git, Docker, Kubernetes, Jenkins, Ansible, AWS, GCP, Azure, Heroku, Proxmox  |
| <b>Related Courses:</b><br>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-) |