





# Wei-En, Tsai

 [github.com/wayne-tsai](https://github.com/wayne-tsai)  [wayne-tsai.idlab.tw](https://wayne-tsai.idlab.tw)  [linkedin.com/in/wei-en-tsai](https://linkedin.com/in/wei-en-tsai)  [schwarz.tsai@gmail.com](mailto:schwarz.tsai@gmail.com)

## EDUCATION

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**National Tsing Hua University** Sept. 2021 - Present  
*M.S. in Information Security. GPA:4.2/4.3*

**National Tsing Hua University** Sept. 2017 - Jun. 2021  
*B.B.A. in double specializations in Computer Science and Quantitative Finance.  
Last 60 Credits GPA:3.86/4.3*

## ENTREPRENEURSHIP & INDUSTRY EXPERIENCE

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**De.Vote Inc.** Aug. 2022 - Present  
*Founder, CEO, and Backend Engineer (5-person company)*

- Secured over 16,000 USD in government funding / 6,700 USD through crowdfunding campaign.
- Served the top 5 construction companies in Taiwan and the Chinese Taipei Olympic Committee.
- Achieved national top 20 startup ranking in Taiwan's 2022 FITI (From IP to IPO) program.

**Aisen Technology Co., Ltd.** Jul. 2019 - Present  
*Founder, CEO and Full Stack Engineer (2-person company)*

- Secured a 14,000 USD grant from the Ministry of Digital Affairs's 2023 "Public Welfare Innovation Case 100".
- Champion of the 2021 National Tsing Hua University Startup Garage Team.
- Runner-up in the 2019 Shanghai Jiao Tong University Entrepreneurship Invitational.

**Advantech Co., Ltd.** Jul. 2019 - Aug. 2019  
*Internship in IoT x Cloud Development. Awarded Best Intern. (2-person team)*

- Developed a web app vulnerability scanner providing security insights, successfully launched on a marketplace.

## RESEARCH EXPERIENCE

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**Department of Quantitative Finance, National Tsing Hua University** Jul. 2019 - Present  
*Part-time Research Assistant / Supervisor: Prof. Wan-Chien Chiu*  
*Research Focus: Finance x Text Mining.*

- Implemented parallel programming techniques in web scraping and text processing applications to efficiently handle large volumes of data.
- Developed a large-scale web scraping program with an automatic proxy switching feature for enhanced data collection efficiency.
- Developed a Telegram bot for real-time monitoring and progress notifications of large-scale application executions.

**Service Science Institute, National Tsing Hua University** Apr. 2023 - Aug. 2023  
*Part-time Research Assistant / Supervisor: Prof. Patricia Pei-Yi Kuo*  
*Research Focus: HCI, Data Visualization.*

- Developed a health bracelet dashboard for study participants, complete with a feedback interface.
- Developed an easily-maintained backend management system for researchers with non-programming backgrounds.

**Department of Finance, National Taiwan University** Jul. 2022 - Aug. 2022  
*Part-time Research Assistant / Supervisor: Prof. Kevin Tseng*  
*Research Focus: Finance x Text Mining.*

- Identified specific data patterns within over 10TB of data (details confidential under NDA).

**Office of Interdisciplinary Research, National Tsing Hua University** Jul. 2021 - Aug. 2021  
*Full-time Research Assistant / Supervisor: Prof. Po-Hsuan Hsu*  
*Research Focus: Finance x Text Mining.*

- Implemented advanced entity recognition measures for efficient trademark retrieval from product names.

**Information Security Incubation Program Ministry of Education** Oct. 2017 - Sep. 2021  
*Advanced Cybersecurity Mentorship Program Participant*

- Conducted research on router vulnerability exploitation under the guidance of serial entrepreneur Jeremy Chiu.
- Excelled in advanced CTF and industrial cybersecurity training.

## ACADEMIC PUBLICATION

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- The ACM Symposium on User Interface Software and Technology (UIST)** Oct. 2023  
*Aisen - Web-Based Gaze-Tracking Assistive Communication Interface with Word Cards Generated by LLMs*  
**Role:** First Author; **Category:** Student Innovation Contest  
**DOI:** <https://dl.acm.org/doi/10.1145/3586182.3625116>
- The 33rd VLSI Design / CAD Symposium** Aug. 2022  
*iWalkSafe - Wearable Navigation Assistance for the Visually Impaired Based on Miniaturized Edge AI*  
**Role:** First Author; **Category:** Poster Presentation
- College Student Research Scholarship Ministry of Science and Technology** Jul. 2020 - Feb. 2021  
*How does innovation matter? A firm-level analysis using textual-information in patent documents*  
**Role:** Sole Author; **Category:** Individual Research

## PATENTS

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- Method and System for Proxy Voting Taiwan Intellectual Property Office** Sept. 2023  
*Primary Inventor of an efficient, user-centric and privacy-enhanced proxy voting method*  
*Patent ID: 112210061 (Granted)*

## PROJECTS

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- De.Vote: Decentralized Voting System with Patented Blockchain and Trust-Computing Technology**
  - Total Award Grant: US\$16,000, Team Size: 5, Duration: 16-Month, Role: Leader, Backend Developer
  - Orchestrated the development of a robust, scalable system infrastructure, enhancing voting integrity and user trust. Achieved a patented system design.
- Aisen: Web-Based Gaze-Tracking Assistive Communication Aid**
  - Total Award Grant: US\$20,000, Team Size: 2, Duration: 4-Year, Role: Leader, Lead Developer
  - Innovated in assistive technology by developing a purely web-based gaze-tracking system, significantly improving communication accessibility for patients with communication disorders.
- idLab eID: Practical eID Solution for Schools and Enterprises**
  - Total Award Grant: US\$4760, Team Size: 1, Duration: 12-Month, Role: Solo Developer
  - Engineered a versatile eID system from ground up, tailored to streamline identity management processes in educational and corporate environments.
- iWalkSafe: Wearable Navigation Assistance Based on Miniaturized Edge AI**
  - Total Award Grant: US\$1,575, Team Size: 3, Duration: 6-Month, Role: Lead Developer
  - Pioneered a cutting-edge wearable navigation solution using Edge AI, enhancing pedestrian safety through real-time environmental awareness and guidance.

(for project details and awards, please visit [wayne-tsai.idlab.tw](http://wayne-tsai.idlab.tw))

## SELECTED AWARDS

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- Hsing Chien Award National Tsing Hua University** May 2023  
*Awarded highest honor for exceptional achievements and contributions to the university community.*
- Jesus Friend Scholarship Taiwan Image Tek Corp.** Dec. 2022  
*Awarded for exceptional academic performance, showcasing dedication and innovation in scholarly pursuits.*
- Outstanding Student Scholarship LCY Education Foundation** Nov. 2022  
*Granted to students who have shown exemplary academic performance and leadership skills.*
- Silver Award, 3MT Academic Presentation Competition National Tsing Hua University** Jun. 2022  
*Secured second place, presenting research in 3 minutes to a non-specialist audience, among 50+ participants.*

## OTHER SKILLS

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**Teaching Assistant:** Data Structures, Intro to High-Tech Entrepreneurship, Capstone Project in CS  
**Programming Languages:** Python, Ruby, C/C++, JavaScript, Shell Script, Perl  
**TOEFL:** 103/120  
**GRE:** 319/340  
**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-)