Wei-En, Tsai

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EDUCATION

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

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

Department of Quantitative Finance, National Tsing Hua University   Jul. 2019 - Jan. 2024
Part-time Research Assistant / Superviser: 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 / Superviser: 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 / Superviser: 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 / Superviser: 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

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

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

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$4,760, 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)

SELECTED AWARDS

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

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-)