

Chia Tung (Tony) Wu 吳佳東

Yilan, Taiwan

✉ chiatung.wu@nycu.edu.tw 🌐 tonywu.site 📞 +886-2-2826-7179 📅 Jan 27, 1993

Education

National Taiwan University Sep. 2017 - Jan. 2023

College of Electrical Engineering and Computer Science

Ph.D. in Computer Science and Information Engineering

National Taiwan University Sep. 2015 - Jun. 2017

College of Electrical Engineering and Computer Science

M.S. in Biomedical Electronics and Bioinformatics

Tunghai University Sep. 2011 - Jun. 2015

College of Management

B.S. in Information Management

Honors & Awards

- 2024 **CES World's #1 Tech Event (Digital Health) National Taiwan Team**, US CTA, Las Vegas
- 2024 **VivaTech Europe's #1 Tech Event (MedTech) National Team**, VIVA TECHNOLOGY, Paris
- 2024 **TechCrunch Disrupt World's #1 Startup Innovation Event**, TechCrunch, San Francisco
- 2024 **CareTEX Asia's #1 Leading Exhibition for Nursing Care Industry**, Boutiques, Osaka
- 2024 **HLTH Healthcare's #1 Must-Attend Innovation Event**, HLTH, Las Vegas
- 2023 **MEDICA World's #1 Medical Tech Event National Team**, MEDICAlliance, Messe Düsseldorf
- 2023 **National Innovation Award 國家新創獎 (創新醫護服務)**, RBMP, Taiwan
- 2023 **FutureTech Award 未來科技獎 (年度亮點技術)**, NSTC (18/500 National Research Projects)
- 2023 **AIoT Highlight Startup Award (Smart Health)**, Ministry of Economic Affairs, Taiwan
- 2023 **Top 100 Best Brands Award**, The Stories of Taiwan's Top 100 Brands, Taiwan
- 2022 **Amazon Web Services AI STAR Award**, Ministry of Digital Affairs & Amazon, Virtual
- 2022 **5G AIoT Highlight Startup Award**, Meet South X 5G AIoT Expo, Business Next Media
- 2022 **FutureCity Best Partner Award**, Ministry of Economic Affairs & New Taipei City Gov.
- 2021 **Best Startup Award**, Yilan County Gov. & Meet Taipei Startup Festival, Business Next Media
- 2021 **Nomination for Most Innovative Solution**, Garmin Global Health Award, Lisbon
- 2020 **Innovation AI Program Award**, InnoVEX 2020 Exhibition & MOST, Virtual
- 2018 **Finalist**, Johns Hopkins Hospital MedHacks, Maryland (50/3000, 30 Countries)
- 2017 **First Prize**, International Open Data Innovation Competition, Ministry of Economic Affairs (1/265)
- 2017 **Second Prize**, Peking, Taiwan & Waseda University Elderly Health Innovation Competition, Peking

Experiences

Always Support Tech Co., Ltd.

New Taipei, Taiwan

Chief Executive Officer

2020 - 2025

- Worked on international business and product development (Gerontechnology and Precision Health).
- Telehealth services development (30+ medical institutions in APAC, Europe, and USA; 10K+ elderly patients).
- Senior living management system and skeleton-based de-identification home safety alert service ([Link](#)) to save 3 working days/month; reduce the number of falls (-18%)/year; save 30 minutes of working time/day.

Yilan County Government

Yilan, Taiwan

Youth Advisor, Youth Affairs Committee

2023 - 2025

- Worked on youth policy development and micro-business consultation.
- Instructed people to implement innovation and entrepreneurship projects.

ComXensor Co., Ltd.

France & Taiwan

Chief Technology Officer (PI: Dr. Shih-Wei Huang & Dr. Lee Swanström)

2021 - 2023

- Worked on AI algorithms and medical software development.
- Facial expression algorithm and clinical decision support system in dementia.
- Integrate wearable devices, smartphones, and bluetooth PH capsules to record personal symptoms and detect PH values in time.

St. Camillus Long-Term Care Center

Yilan, Taiwan

IT Consultant (PI: Dr. Lung-Kuan Huang)

2019 - 2025

- Worked on the development of long-term care ERP system
- Fall detection and access control service development (reduce alert time from 180s to 3s) ([Link](#)).
- Research proposal writing and implementation (Ministry of Health and Welfare Project: 2 accepted).

United States Federal Gov. ARS

Washington D.C., USA

Visiting Researcher (PI: Dr. Y. C. (Simon) Liu)

2018 - 2019

- Worked on the US national research program i5k: Sequencing Five Thousand Arthropod Genomes.
- Real-time genome annotation editor platform DevOps (Active users: 5K+ Biologists & Geneticists).
- Genetic data analysis tool development, optimization and open source project releasing ([Link](#)).

Microsoft Corporation

Taipei, Taiwan

R&D Intern

2017 - 2018

- Worked on the cross-platform mobile banking Apps UI/UX design & hospital information system dev.
- King's Town mobile banking application ([Link](#), 4.1 star, 100K+ downloads).
- Shin Kong hospital information system development.

National Taiwan University Hospital

Taipei, Taiwan

Software Engineer

2015 - 2017

- Worked on NTUH Telehealth platform DevOps ([Link](#), 4K+ patients).
- Hospital information system web services and real-time data architecture development.

National Taiwan University Medical Informatics Lab

Taipei, Taiwan

Graduate Research Assistant (PI: Prof. Feipei Lai)

2015 - 2022

- Precision health service ([Link](#), 3K+ patients, 40+ medical personnel in Taiwan, Japan and USA).
- Chronic diseases prediction model development. (85% on the AE of chronic disease, 1393M patients data)
- Wearable device integration into one interface (collaborate with Google, Asus, Apple and Garmin).
- Health management smartphone application & companion robot development.

Industry-Academia Programs

2024-2025	次世代產業新創淬鍊計畫 新創驅動高齡驗證 , 經濟部 & iki Diag France - 高齡智能照護服務計畫 (\$3000K/10 months)	計畫主持人
2022-2025	SCH Program , 秀傳醫療體系 & 彰秀護理之家 - Parkinson's Disease AI Decision Support System (\$1200K/year)	失智AI診斷服務開發
2023-2024	NSTC Program , 國科會 & 秀傳醫療 & 臺北醫學大學附設醫院 & IRCAD - 智慧醫療產學聯盟-建構國際智慧微創醫療生態系統(II) (\$13000K/year)	內視鏡AI病徵偵測開發
2024-2025	NSTC Program , 國家科學及技術委員會 - 以學習型健康系統結合生成式人工智慧應用於糖尿病腎病變精準健康照護之建構與驗證	Fine-Tuned AI語言模型
2023-2025	NSTC Program , 國家科學及技術委員會 - 晚期癌症病人接受免疫治療期間身心困擾、財務毒性、照護需求與生活品質之一年追蹤研究: 量表測試與免疫相關不良反應預測模式之發展 (\$870K/year)	AI Chatbot開發
2022-2023	SBIR Program , 經濟部 & 蘆洲福鶯日照中心 & 希望城市日照中心 - 熟成橘子長照資源整合服務 (\$200K/3 months)	計畫主持人
2022-2024	MOST Program , 科技部 - 增進糖尿病腎病變患者參與疾病自我管理:智慧健康科技導航照護系統之發展與應用 (\$880K/year)	智慧照護系統開發
2022-2024	NTUH Program , 國立臺灣大學醫學院附設醫院 - 注意力不足過動症兒童之過動評估研究	ADHD預測模型開發
2022-2024	NTUH Program , 國立臺灣大學醫學院附設醫院 - Prediction on the Recurrence of Manic and Depressive Episodes in Bipolar Disorder	Depression預測模型開發
2022-2023	MOHW Program , 衛生福利部 & 財團法人天主教靈醫會聖嘉民老人長期照顧中心 - 智慧守門人:人臉辨識門禁管理暨預防失智長者走失警報系統 (\$298K/6 months)	協同主持人
2022-2023	國際創業聚落鏈結計畫 , 經濟部 - Approved Enterprises for Residency in Startup Terrace (\$300K/year)	計畫主持人
2022-2023	NHRI Program , 國家衛生研究院 - 利用智慧醫療科技及精準醫學以促進心肺復甦術的施救品質與紀錄 (\$1288K/year)	專家學者
2021-2022	MOST Program , 科技部 - 基於數位虛擬自我與邊緣運算的精準健康 (\$615K/year)	精準健康服務研發
2021-2022	SBIR Program , 經濟部 & 宜蘭縣政府 - 高齡智能安全服務 (\$1980K/year)	計畫主持人
2021-2022	NTUH Apollo Program , 國立臺灣大學醫學院附設醫院 - 休士頓阿波羅社區醫療服務平台	社區長者醫療照護平台開發
2021-2022	MixerBox Program , 易享科技股份有限公司 - Personal music recommendation APP based on environmental and physiological information	協同主持人
2020-2022	MOST Program , 科技部 - 以健康素養為基礎之體重控制措施經手機應用程式介入於體重過重及肥胖青少年之成效 (3/3) (\$920K/year)	肥胖症預測模型研發

2020-2021	MOHW Program , 衛生福利部 - 智慧型骨架分析暨防災系統導入計畫 (\$240K/6 months)	協同主持人
2019-2020	科技部價創計畫 , 秀傳醫療 & 法國IHU醫學中心 & 華碩健康 - 胃食道逆流遠距照護系統開發與建置 (\$9000K/year)	遠距照護平台研發
2018-2021	前瞻 AI 計畫 , 科技部 - 臺大醫神-精準醫療人工智慧輔助決策系統 (4/4) (\$29600K/year)	慢性病精準健康服務研發
2018-2021	USDA and NIH Program , 美國農業部 & 美國國家衛生院 - i5k: Sequencing Five Thousand Arthropod Genomes	Apollo 基因標註分析共享平台
2017-2018	MOST Program , 科技部 - 結合多功能居家照護ERICA系統與基層醫療體系，建構個人化的居家照護模式，以減輕族群老化對個人與社會的衝擊 (\$4433K/year)	陪伴機器人研發
2017-2020	MOST Program , 科技部 - 健康素養、食物環境、飲食型態對青少年體重過重及肥胖的影響 (\$1273K/year)	飲食環境風險演算法開發
2015-2017	MOST Program , 科技部 - 應用智慧型手機於改善氣喘學童健康生活型態及健康狀態之成效 隨機對照試驗研究 (\$506K/year)	跨平台智慧型手機App開發
2015-2017	NTU Program , 國立臺灣大學 & 聯發科技 & 臺大醫院 - Obstructive Sleep Apnea Management System & Big Data Analysis	睡眠呼吸中止症決策支援系統開發

Selected Publications

Journal Articles

- [1] **Wu C**, Li G, Huang C, Cheng Y, Chen C, Chien J, Kuo P, Kuo L, Lai F, Acute Exacerbation of a Chronic Obstructive Pulmonary Disease Prediction System Using Wearable Device Data, Machine Learning, and Deep Learning: Development and Cohort Study, JMIR Mhealth Uhealth 2021;9(5):e22591, URL: <https://mhealth.jmir.org/2021/5/e22591>, DOI: 10.2196/22591.
(First Author, Rank: 7%, Impact Factor=5.4, Medicine-Health Informatics, SCI)
- [2] **C. -T. Wu** et al., "A Precision Health Service for Chronic Diseases: Development and Cohort Study Using Wearable Device, Machine Learning, and Deep Learning," in IEEE Journal of Translational Engineering in Health and Medicine, vol. 10, pp. 1-14, 2022, Art no. 2700414, doi: 10.1109/JTEHM.2022.3207825.
(First Author, Rank: 24%, Impact Factor=3.4, Engineering - Biomedical Engineering, SCI)
- [3] Liao, YT., Huang, J., **Wu, CT.** et al. The necessity of abdominal drainage for patients with complicated appendicitis undergoing laparoscopic appendectomy: a retrospective cohort study. World J Emerg Surg 17, 16 (2022). <https://doi.org/10.1186/s13017-022-00421-3>.
(Third Author, Rank: 1%, Impact Factor=8.165, Medicine - Surgery, SCI)
- [4] Tsai C, Chen P, Liu D, Kuo Y, Hsieh T, Chiang D, Lai F, **Wu C**, Panic Attack Prediction Using Wearable Devices and Machine Learning: Development and Cohort Study, JMIR Med Inform 2022;10(2):e33063, URL: <https://medinform.jmir.org/2022/2/e33063>, DOI: 10.2196/33063.
(Corresponding Author, Rank: 21%, Impact Factor=3.2, Medicine - Health Informatics, SCI)

- [5] T. W. Tseng, **C. T. Wu** and F. Lai, "Threat Analysis for Wearable Health Devices and Environment Monitoring Internet of Things Integration System," in IEEE Access, vol. 7, pp. 144983-144994, 2019, doi: 10.1109/ACCESS.2019.2946081.

(Second Author, Rank: 15%, Impact Factor= 3.9, Computer Science, SCI)

- [6] Liao, YT., Huang, J., **Wu, CT.** et al, "Wearable mobile health device for monitoring postoperative ambulation among patients with colorectal cancer undergoing minimally invasive surgery: A prospective comparison study", International Journal of Medical Robotics and Computer Assisted Surgery.

(Third Author, Rank: 43%, Impact Factor= 3.046, Computer Science Applications, SCI)

Under Review (Journal Articles and Patents)

- [7] **Chia-Tung Wu**, Ssu-Ming Wang, Kai-Zheng Su, Tsung-Ting Hsieh, Yun-Jen Chou, Hong-Ming Chen, Pai-Yi Chiu, A Facial Expression-based Artificial Intelligence Model to Assist with Screening for Parkinson Disease: Development and Cohort Study, Journal of Advanced Research (First, Q1, Multidisciplinary)
- [8] **(US Patent) Chia-Tung Wu**, Wayne Shih-Wei Huang, Pai-Yi Chiu, Ssu-Ming Wang, Hsiao-Ting Lee, Samuel Hsiao, John Su, Method for Assessing the Risk of Neurodegenerative Diseases through Oral Imaging.
- [9] **(TW Patent) Chia-Tung Wu**, Ssu-Ming Wang, Pai-Yi Chiu, Wayne Shih-Wei Huang, Tsung-Ting Hsieh, Hsiao-Ting Lee, Samuel Hsiao, John Su, 透過臉部影像評估神經退化疾病風險之方法.
- [10] **Chia-Tung Wu**, Ding-Shan Liu; I-Ming Chen; Ming H Hsieh; Chen-Chun Lu; Feipei Lai, "Using Wearable Device and Artificial Intelligence to Predict Mood Symptoms in Bipolar Disorder", Asian Journal of Psychiatry (First, Q1, Psychiatry and Mental Health).
- [11] **Chia-Tung Wu**, Yi-En Su, Yu-Hsia Chen, Tsung-Ting Hsieh, Pei-Chen Chen, Ssu-Ming Wang, Tzu-Wei Tseng, Lu-Cheng Kuo, Feipei Lai, Bih-Shya Gau, Predicting the Risk of Overweight and Obesity in Adolescent Using Lifestyle Factors, Living Environment Factors and Machine Learning: Development and Cohort Study", International Journal of Medical Informatics. (First, Q1, Health Informatics).

International Conferences

- [1] **Chia-Tung Wu**, Ssu-Ming Wang, Lung-Kuan Huang, "Senior Living Services for Helping Older Adults Age Well in Suburban and Rural Areas" PwC 2024 Global Challenge :Accelerate innovation acceptance by building trust! (VIVA Technology 2024), Paris, France, May. 2024.
- [2] **Chia-Tung Wu**, Ssu-Ming Wang, Kai-Zheng Su, Yi-Ling Chien, Tsung-Ting Hsieh, Jung-Yien Chien, Feipei Lai, "Precision Health Services for Chronic Diseases" Semiconductors, Global Trends, and Taiwan Conference (CES 2024), Las Vegas, USA, Jan. 2024.
- [3] **Chia-Tung Wu**, Wayne Shih-Wei Huang, Lee L SWANSTRÖM, Ssu-Ming Wang, Hsiao-Ting Lee, Samuel Hsiao, Kai-Zheng Su, "Advances pH monitoring solution for Gastroesophageal Reflux Disease" MEDICA Tech Forum (MEDICA 2023), Düsseldorf, Germany, Nov. 2023.
- [4] Yu-Hsin Liu, **Chia-Tung Wu**, Yi-En Su, Tsung-Ting Hsieh, Feipei Lai, Yu-Tso Liao, Yun-Jen Chou, Shiow-Ching Shun, "Machine Learning Prediction Models for Recovery After Colorectal Cancer Surgery Using Wearable Device Data, Air Quality Data and Clinical Evaluation Data", 5th Global Conference on Biomedical Engineering (GCBME 2022), Dec. 2022.

- [5] Monica Poelchau, Yi Hsiao, Min-Chen Hsu, Chun-Hung Lin, **Chia-Tung Wu**, Christopher Childers. The i5k Workspace@NAL - a Genome Database for Arthropods. 12th Annual Arthropod Genomics Symposium, Kansas, USA, Jun. 2019.
- [6] **Chia-Tung Wu**, Yu-Han Hung, Chien-Hsu Chen, Te-Wei Ho, Feipei Lai, "A Zenbo Robot Application for Improving Life Quality and Social Contact for the Elderly," e-CASE & e-Tech 2018, Osaka, Japan, April 1~3, 2018.
- [7] Yu-Fen Tzeng, **Chia-Tung Wu**, Bih-Shya Gau, Fei-Pei Lai. Development of kids Health Lifestyle Smartphone Application for school-age children with asthma. The 20th EAFONS (East Asian Forum of Nursing Scholars), Hong Kong, Mar. 2017.
- [8] **C. -T. Wu** et al., "A smart phone application in improving healthy lifestyles and health outcomes for school-age children with asthma," 2016 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), San Francisco, CA, USA, 2016, pp. 1034-1037, doi: 10.1109/ASONAM.2016.7752368.

Teaching

Industry Lecturer, College of Medicine, National Taiwan University

Taipei, Taiwan

Training Program for Interdisciplinary Talents of Precision Health

2024 ~ 2025

COURSES Intelligent Device Design and Application

Industry Lecturer, Ministry of Labor

Taipei, Taiwan

Artificial Intelligence and Big Data Analysis Program

2021 ~ 2025

COURSES Python Programming Language
Data Mining
AIoT Special Topics
Big Data Business Application

AWARDS Finalist, 2024 EE Challenge AIoT (Social Group), AspenCore & EE Times
3rd, 2022 Yilan ! Technology Innovation Application Competition, Yilan County Government
3rd, 2021 Data Innovation Application Competition (Smart City), MOTC

Laboratory of Medical Informatics System, National Taiwan University

Taipei, Taiwan

Teaching Assistant to Prof. Feipei Lai

2017 ~ 2022

COURSES Healthcare Information System

AWARDS Finalist, 2022 20th ATCC Business Case Competition, ATONA Inc.
1st, Open Data Innov. Application Competition (Intelligent Robot), MOEA & ASUS

Industry Lecturer, Ministry of Labor

Yilan, Taiwan

Full Stack Developer Professional Development Program

2020 ~ 2021

COURSES Computer Architecture, JavaScript Programming Language
ECMAScript, Bootstrap Responsive Web Design, JQuery UI Component Application
Database System, Vue Program Development, Innovation Application Special Topics

AWARDS Top 12, 2021 Open Data Innovation Application Competition (Weather), MOTC
Top 12, 2020 Open Data Innovation Application Competition (Industrial Development), MOEA

Invited Talks

2025	DigiCare Forum: Trends in Community-Based Long-Term Care , Taipei City Hospital - From Now to Next: How Digital Innovation is Shaping Community Long-Term Care.	Taipei
2025	Smart Long-term Care Keynote Speech , Eden Social Welfare Foundation - Integrating AIoT Solutions into Long-Term Care: What You Need to Know and Do.	Yilan
2025	Taiwan Nursing Informatics Association Annual Meeting Speech , TVGH - Sustainable HealthTech.	Taipei
2024	VivaTech Taiwan Team Press Conference Speech , Taiwan Tech Arena & NSTC - AST Senior Living Genie Service: Bridge the Gap between Technology and Senior Care.	Tainan
2024	AI Special Topics in Dementia Speech , Show Chwan & Mayo Clinic - Method for Assessing the Risk of Neurodegenerative Diseases through Oral Imaging.	Virtual
2024	Institute of Hospital and Health Care Administration Speech , NYCU - Precision Health Service for Chronic Diseases.	Taipei & Virtual
2023	Okinawa Government Keynote Speech , Ministry of Economic Affairs - Smart Life Solutions-Deliver New Value to Super-aged Society.	New Taipei & Virtual
2023	FutureTech Highlight Tech , National Science and Technology Council - NTU Medical Genie-Precision Health Service for Chronic Diseases.	Taipei & Virtual
2023	NTUH Keynote Speech , Department of Internal Medicine, NTUH - Precision Health Service for Chronic Diseases.	Taipei
2023	Formosa on the Horizon TV Show , FTV News 民視電視專訪 - Smart Day Care Information System.	New Taipei
2023	MOEA Startup Terrace Keynote Speech , Taiwan Startup Terrace - Smart Life Solutions.	New Taipei
2023	企業資訊應用環境日趨複雜下的關鍵課題專家座談會 , Institute for Information Industry - 企業多雲有效管理與對於複合資訊應用環境維運的挑戰	Taipei
2022	AWS Summit Taiwan , Amazon - AWS Application in the Long-term Care Industry	Kaohsiung
2022	AWS Industry Week , Amazon - Application of AIoT in the fields of smart medical care and long-term care	Taipei
2022	Business Next Meet Podcast , 數位時代創業小聚專訪 - 22S2 EP07 青年返鄉、科技創業——永扶科技守護高齡長者	Podcast
2022	U GO TALK Podcast , U Go School專訪 - AIoT技術在長照2.0世代所扮演角色	Podcast

2022	USTV A-TEAM TV Show , USTV 非凡電視專訪 - AI打造"高齡智能服務" 運用長照中心	Virtual
2022	Startup Terrace News , Ministry of Economic Affairs - AI Reads Abnormal Skeletal Angles to Enhance the Safety of Elderly Care	Virtual
2022	Yilan !MBA Keynote Speech , Yilan Youth Hub - How to Develop Startup Marketing Strategies	Yilan
2022	Thailand Ministry of Public Health, Smart City Keynote , New Taipei Government - Smart Public Health Bureau Solution	Virtual
2022	Innovation Senior Care Keynote Speech , Yilan County Government - Face Recognition System in Long-Term Care Center	Yilan
2022	Hualien Social Affairs Keynote Speech , Hualien County Government - 人工智慧打造安心安居環境	Hualien
2022	SBIR Project Press Conference , Yilan County Government - ESafety De-identification Home Security Service	Yilan
2021	區域銀髮健康促進創新沙龍 , National Association of Small and Medium Enterprises R.O.C - 去識別居家安全感測服務	Taipei
2021	Open Data Innovation Competition Keynote , Taipei Computer Association - Open Data Application and Business Proposal Writing	Virtual
2021	Smart City Innovation Competition Keynote , Hsin Ming Youth Hub - AI Image Detection on Traffic Data	Taoyuan
2021	National HURC Keynote Speech , Ministry of Economic Affairs - AIoT Smart Home Application	New Taipei
2020	Healthcare Expo , MAHC NTU and Ministry of Science and Technology - AI Clinical Decision Support System	Taipei
2020	Transport Data eXchange Keynote , Ministry of Transportation and Communications - Smart City and Smart Traffic Service	Virtual
2020	MOST Precision Medicine Press Conference , Ministry of Science and Technology - Acute Exacerbation of COPD Prediction System	Taipei
2020	MOST Kiss Science , Ministry of Science and Technology - Lifestyle and Environment System	Virtual
2020	MOST 跨域交流成果發表會 , AI NTU - NTU Medical Genie Precision Medicine Platform	Virtual
2017	Multi-Discipline Symposium - Home Caring & Smart City , University of Aberdeen - NTUH Telehealth Platform	Virtual