

EDUCATION

National Taiwan University

Sep. 2015 – Jun. 2017

M.S. Biomedical Electronics and BioInformatics, GPA: 3.76/4.3, Major GPA: 4.12/4.3

Taipei, Taiwan

- **Relevant courses:** Computer Vision, Advanced Computer Vision, Artificial Intelligence, Machine Learning Foundations, Machine Learning, Machine Learning Techniques

National Sun Yat-Sen University

Sep. 2011 – Jun. 2015

B.S. Computer Science and Engineering, GPA: 3.89/4.3, Major GPA: 4.15/4.3

Taipei, Taiwan

- **Relevant courses:** Linear Algebra, Probability, Algorithms, Operating System, UNIX System Programming, Digital Image Processing

RESEARCH INTERESTS

Computer Vision, Machine Learning, Embedded System, Visual Representation Learning, Self-supervised Learning, Weakly-supervised Learning, Linux

RESEARCH EXPERIENCE

Academia Sinica

Jul. 2021 – Present

Research assistant, Advisor: Ming-Ching Chang, Richard Tzong-Han Tsai

Taipei, Taiwan

- Developing computer vision algorithms and software for Map AI to extract geographic features from historical maps of Taiwan with weakly-labeled data.

Digital Camera and Computer Vision Laboratory @ National Taiwan University

Apr. 2015 – Jun. 2017

Research assistant, Advisor: Chiou-Shann Fuh

Taipei, Taiwan

- Researched computer vision, digital image processing, and digital camera (ISP) algorithms.
- Focused on developing visual tracking algorithms and methods for defect inspection from X-ray images of printed circuit boards.

INDUSTRIAL EXPERIENCE

Synology Incorporated

Nov. 2017 – May 2021

Research developer

New Taipei City, Taiwan

- Led a group of 3 people to bring up 3 solid-state drive product series, increasing about 1% annual revenues (about 2 million USD/year).
- Maintained Linux NVMe and Intel NIC drivers for *DiskStation Manager* and contributed 1 patch, solving a prospective race condition, to Linux Kernel community.
- Developed software features such as *Drive Firmware Upgrade Manager*, *Bad Block Management*, etc. of the *Storage Manager* package on *DSM*.

Lumens Digital Optics Incorporated

Apr. 2015 – Jul. 2017

Technical consultant assistant

Hsinchu, Taiwan

- Analyzed computer vision algorithms, including stereo camera calibration, colored filter array interpolation, etc.
- Developed a camera system on NVIDIA Jetson TX2 platform for human tracking and video recording.

AWARDS AND ACHIEVEMENT

ACM-ICPC Contest Council for Taiwan Collegiate Programming Examination: Drafter	2017
The Phi Tau Phi Scholastic Honor Society of the Republic of China: Honorary Member	2015
NSYSU CSE Undergraduate Project Competition: Popularity Award	2014
The 38 th ACM-ICPC World Final, Russia, June 2014: Honorable Mention	2014
National Sun Yat-Sen University Excellent Student Award	2013
ASE Group scholarship	2013
National Sun Yat-Sen University Undergraduate Programming Contest: 3 rd place	2012
Southern College Programming Competition: 2 nd place	2012

PUBLICATIONS

Wong, Cheng-Shih, Chang, Ming-Ching, Tsai, Richard Tzong-Han, and Liao, Hsiung-Ming, “Weakly-supervised learning for understanding bridges in historical maps over time – A case study of Taiwan topographic maps from 1989 to 2017.” in progress, 2021

S.-F. Wu, M.-C. Chang, S. Lyu, **Wong, Cheng-Shih**, A. K. Pandey, and P.-C. Su, “Flagdetseg: Multi-nation flag detection and segmentation in the wild,” in *2021 17th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)*, IEEE, 2021

Wong, Cheng-Shih, “A pan-tilt-zoom camera system for human tracking based on the particle filtering method with a static camera: a case study of biomedical teacher tracking and video recording,” Master’s thesis, National Taiwan University, 2017

H.-P. Kao, T.-C. Tung, H.-Y. Chen, **Wong, Cheng-Shih**, and Fuh, Chiou-Shann, “Pin defect inspection with x-ray images,” in *Advances in Neural Networks - ISNN 2017* (F. Cong, A. Leung, and Q. Wei, eds.), (Cham), pp. 465–473, Springer International Publishing, 2017

TEACHING EXPERIENCE

Advanced Computer Vision (CSIE7421)

Teaching assistant

Spring 2017

National Taiwan University

Computer Vision (CSIE5732)

Teaching assistant

Fall 2016

National Taiwan University

Fundamental of Computer Science (CSIE1920)

Teaching assistant

Fall 2016

National Taiwan University

NSYSU Code Club: Algorithms

Instructor

Spring 2015

National Sun Yat-Sen University

LEADERSHIP / EXTRACURRICULAR

NSYSU Code Club

Founder

2015

National Sun Yat-Sen University

Student Association Team of Department of CSE

Representative

2013 – 2014

National Sun Yat-Sen University

Basketball Team of Department of CSE

Leader

2012 – 2013

National Sun Yat-Sen University

NSYSU CSE Summer Camp

Counselor

2012

National Sun Yat-Sen University

TECHNICAL SKILLS

Programming: C, C++, Python, JavaScript, PyTorch, OpenCV, Linux Kernel

Developer skills: Linux, Git, Vim, \LaTeX