

## 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 Lab. @ 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 Inc.** 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 Inc.** 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

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| 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 <sup>th</sup> 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 <sup>rd</sup> place | 2012 |
| Southern College Programming Competition: 2 <sup>nd</sup> place                          | 2012 |

## PUBLICATIONS

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**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 17<sup>th</sup> 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

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### **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

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### **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

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

**Developer skills:** Linux, Git, Vim,  $\LaTeX$