

Cheng-Yen (Chris) Yang

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Summary

I am currently a second-year Ph.D. student in the Department of Electrical Computer Engineering at the University of Washington. I am working with Prof. Jenq-Neng Hwang and the Information Processing Lab. My research interests lie around **Domain Adaptation, Multi-Camera Computer Vision** and **2D/3D Human Pose Estimation & Gait Recognition**.

Educations

University of Washington

Ph.D. in Electrical and Computer Engineering

- Faculty Advisor: Professor Jenq-Neng Hwang

Seattle, United States

Mar. 2021 - present

University of Washington

M.S. in Electrical and Computer Engineering - GPA: 3.87

- Selected Courseworks: Computer Vision, Deep Learning, Artificial Intelligence, Machine Learning for Big Data

Seattle, United States

Sep. 2019 - Mar. 2021

National Taiwan University

B.S. in Electrical Engineering - GPA: 3.78

- 2018 The Presidential Award (Top 1% in Department of Electrical Engineering)

Taipei, Taiwan

Sep. 2014 - Jan. 2019

Research Experiences

Information Processing Lab, University of Washington

Research Assistant (Advisor: Prof. Jenq-Neng Hwang)

Aug. 2020 - present

Seattle, United States

- Received funding from Electronics and Telecommunications Research Institute (South Korea), National Institute of Water and Atmospheric Research (New Zealand), and National Oceanic and Atmospheric Administration (US) to work on various projects on leveraging deep learning to solve real-world problems.
- Lead and organized the team to participate in the ICCV 2021 MMP Tracking Challenge and won the 3rd place on the camera-view track.
- Lead and organized the team to participate in the NTIRE 2021 MAVOChallenge and won the honorable mention award on the SAR track.

Vision and Learning Lab, National Taiwan University

Research Assistant (Advisor: Prof. Yu-Chiang Frank Wang)

Feb. 2017 - Feb. 2019

Taipei, Taiwan

- Designed and implemented a weakly-supervised learning method for attention-guided skull fracture classification with a 91% overall accuracy and +3% improvement on baseline models using Pytorch.
- Contributed to the intracranial hemorrhage detection AI system, partnering with deep01, and deployed in several Taiwan medical centers and hospitals for daily clinical prognosis.

Intern Experiences

Reserach Scientist Intern

Meta Reality Lab

Jun. 2022 - Sep. 2022

Burlingame, United States

- Worked with Dr. Sophia Fan, Dr. Kunpeng Li and Dr. Dimitri Model from the XR Eye team.
- Work on leveraging domain adaptation to enhance gaze estimation performance.

Applied Scientist Intern

Amazon.com

Jun. 2021 - Sep. 2021

Bellevue, United States

- Mentored by Dr. Jiajia Luo and Dr.Cheng-Hao Kuo from the Visual Perception team.
- Work on leveraging in-the-wild 2D annotations to enhance the 3D pose estimation performance on the cross-dataset scenarios, the work is accepted by WACV 2023.

Machine Learning Engineer Intern

Envive Inc.

Jun. 2019 - Aug.2019

Taipei, Taiwan

- Designed a multi-layer convolutional network model for link predictions of medical-based knowledge graphs with a 96% overall precision and +5% improvement on the datasets using Pytorch.
- Built and maintained over 2000+ lines code of deep learning API and internal database python packages used by the automatic diagnosis system and other products.

Publications

- [1] "Learning Temporal Attention-based Keypoint-guided Embedding for Gait Recognition", *Hung-min Hsu, Yizhou Wang, Cheng-Yen Yang, Jenq-Neng Hwang*, Under reviewed by the IEEE Journal of Selected Topics in Signal Processing.
- [2] "CameraPose: Weakly-Supervised 3D Human Pose Estimation from a Single Image with Unlabeled in the Wild Data" , *Cheng-Yen Yang, Jiajia Luo, Xia Lu, Yuying Sun, Zhongyu Jiang, Jenq-Neng Hwang, Cheng-Hao Kuo*, Accepted by WACV 2023.
- [3] "Observation Centric and Central Distance Recovery on Sports Player Tracking", *Hsiang-Wei Huang, Cheng-Yen Yang, Jenq-Neng Hwang*, 2022 ACM Workshop on Multimedia Content Analysis in Sports Challenge Report.
- [4] "GaitTAKE: Gait Recognition using Temporal Attention and Generative Keypoints Synthesis" , *Hung-min Hsu, Yizhou Wang, Cheng-Yen Yang, Jenq-Neng Hwang*, Accepted by IEEE International Conference of Image Processing 2022.
- [5]"Unsupervised Domain Adaptation Learning for Infant Pose Recognition with Synthetic Data", *Cheng-Yen Yang, Zhongyu Jiang, Shih-Yu Gu, Jenq-Neng Hwang, Jang-Hee Yoo*, Accepted by International Conference of Multimedia and Expo 2022.
- [6] "U3D-MOLTS: Unified 3D Monocular Object Localization, Tracking and Segmentation", *Haotian Zhang, Yizhou Wang, Zhongyu Jiang, Cheng-Yen Yang, Jie Mei, Jiarui Cai, Jenq-Neng Hwang, Kwang-Ju Kim, Pyong-Kun Kim*, Appeared in 6th Benchmarking Multi-Target Tracking Workshop (ICCV 2021).
- [7]"HVPS: A Human Video Panoptic Segmentation Framework", *Yizhou Wang, Haotian Zhang, Zhongyu Jiang, Jie Mei, Cheng-Yen Yang, Jiarui Cai, Jenq-Neng Hwang, Kwang-Ju Kim, Pyong-Kun Kim*, Appeared in 6th Benchmarking Multi-Target Tracking Workshop (ICCV 2021 Workshop).
- [8] "Long-Tailed Recognition of SAR Aerial View Objects by Cascading and Paralleling Experts" , *Cheng-Yen Yang, Jiarui Cai, Hung-Min Hsu, Jenq-Neng Hwang*, Accepted by 2021 New Trends in Image Restoration and Enhancement workshop (CVPR 2021).
- [9] "Weakly-Supervised Learning for Attention-Guided Skull Fracture Classification in Computed Tomography Imaging" [link], *Cheng-Yen Yang, Chih-Hsin Lo, Huan-Chih Wang, Jen-Hai Chou, Yu-Chiang Frank Wang*, Accepted by 2019 IEEE International Conference of Image Processing (ICIP 2019).

Teaching Experiences

- EE5184** Machine Learning (2018, Fall) - Lead TA
- EE5184** Machine Learning (2018, Spring)- TA
- CommeE5052** Deep Learning for Computer Vision (2018, Spring) - TA

Honors & Awards

- 2022 **3rd Place**, 5th International ACM Workshop on Multimedia Content Analysis in Sports - DeepSportRadar Player Reidentification Challenge
- 2021 **1st Place**, 6th Workshop on Benchmarking Multi-Target Tracking - Video Track (both MOTChallenge-STEP & KITTI-STEP) (in conjunction with ICCV2021)
- 2021 **3rd Place**, ICCV 2021 Multi-camera Multiple People Tracking Challenge - Camera-View Track
- 2021 **Honorable Mention Award**, NTIRE 2021 Multi-modal Aerial View Object Classification Challenge - SAR Track (in conjunction with CVPR2021)
- 2020 **5th Place**, TC4 Competition and Workshop on Human Identification at a Distance 2020 (in conjunction with ACCV2021)
- 2018 **The Presidential Award (Top 1%)**, National Taiwan University
- 2017 **National Technology and Research Scholarship**, CTCI Foundation, Taiwan

Professional Skills

- Languages** Python, C++, PHP, Matlab
- Frameworks** Data(Hadoop, Spark), ML/DL(Pytorch), CV(OpenCV) , NLP(nltk, coreNLP)