Yun-Chun Chen

✉ ycchen@cs.toronto.edu
yunchunchen.github.io
YunChunChen

Education

Sept. 2020 – Present **Ph.D. Student**, University of Toronto, ON, Canada.
Department of Computer Science
Advisor: Animesh Garg

Sept. 2014 – Jun. 2018 **Bachelor of Science**, National Taiwan University, Taipei, Taiwan.
Department of Electrical Engineering

Work Experience

Sept. 2020 – Present **People, AI and Robotics Lab, University of Toronto, ON, Canada**.
Research Assistant. Advisor: Animesh Garg
- Working on geometric shape assembly and related problems.

Sept. 2020 – Present **Vector Institute, Toronto, ON, Canada**.
Student Researcher. Advisor: Animesh Garg

Jan. 2020 – Jun. 2020 **Vision and Learning Lab, University of California at Merced, CA, USA**.
Short-term Visiting Scholar. Mentor: Ming-Hsuan Yang
- Proposed a self-attention algorithm for video-based 3D human pose and shape estimation.

Apr. 2019 – Jul. 2019 **Vision and Learning Lab, Virginia Tech, VA, USA**.
Short-term Visiting Scholar. Mentor: Jia-Bin Huang
- Proposed an algorithm for searching structured image prior for image restoration and synthesis tasks.

Jul. 2017 – Jan. 2019 **Computer Vision Lab, Academia Sinica, Taipei, Taiwan**.
Research Assistant. Mentors: Yen-Yu Lin, Jia-Bin Huang, and Ming-Hsuan Yang
- Proposed a cross-task consistency algorithm for joint semantic matching and object co-segmentation.
- Proposed a cross-resolution generative adversarial network for cross-resolution visual recognition.
- Proposed a cross-domain consistency algorithm for unsupervised domain adaptation.
- Developed a weakly-supervised learning algorithm for semantic matching.

Nov. 2016 – Oct. 2018 **Communication and Multimedia Lab, National Taiwan University, Taipei, Taiwan**.
Undergraduate Student Researcher. Mentor: Winston Hsu
- Developed a 3D segmentation network for lung cancer radiomics-tumor region segmentation.
- Proposed a weakly-supervised learning method for object localization.

Selected Publications

Journal paper

PAMI 2020 **Show, Match and Segment: Joint Weakly Supervised Learning of Semantic Matching and Object Co-segmentation**.
Yun-Chun Chen, Yen-Yu Lin, Ming-Hsuan Yang, and Jia-Bin Huang
IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2020

Conference papers

ECCV 2020 **NAS-DIP: Learning Deep Image Prior with Neural Architecture Search**.
Yun-Chun Chen*, Chen Gao*, Esther Robb, and Jia-Bin Huang
European Conference on Computer Vision (ECCV), Glasgow, UK, August, 2020

ECCV 2020 **Learning to Learn in a Semi-Supervised Fashion**.
Yun-Chun Chen, Chao-Te Chou, and Yu-Chiang Frank Wang
European Conference on Computer Vision (ECCV), Glasgow, UK, August, 2020

ICCV 2019 **Recover and Identify: A Generative Dual Model for Cross-Resolution Person Re-Identification**.
Yun-Chun Chen*, Yu-Jhe Li*, Yen-Yu Lin, Xiaofei Du, and Yu-Chiang Frank Wang
IEEE International Conference on Computer Vision (ICCV), Seoul, South Korea, October, 2019

CVPR 2019 **CrDoCo: Pixel-level Domain Transfer with Cross-Domain Consistency**.
Yun-Chun Chen, Yen-Yu Lin, Ming-Hsuan Yang, and Jia-Bin Huang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Long Beach, California, June, 2019

AAAI 2019 **Learning Resolution-Invariant Deep Representations for Person Re-Identification**.
Yun-Chun Chen*, Yu-Jhe Li*, Xiaofei Du, and Yu-Chiang Frank Wang
AAAI Conference on Artificial Intelligence (AAAI), Honolulu, Hawaii, January, 2019 **Oral Presentation**

ACCV 2018 **Deep Semantic Matching with Foreground Detection and Cycle-Consistency**.
Yun-Chun Chen, Po-Hsiang Huang, Li-Yu Yu, Jia-Bin Huang, Ming-Hsuan Yang, and Yen-Yu Lin
Asian Conference on Computer Vision (ACCV), Perth, Australia, December, 2018

Preprint

arXiv 2021 **Learning by Watching: Physical Imitation of Manipulation Skills from Human Videos**.
Haoyu Xiong, Quanzhou Li, **Yun-Chun Chen**, Homanga Bharadhwaj, Samarth Sinha, and Animesh Garg
arXiv preprint arXiv:2101.07241

arXiv 2020 **Cross-Resolution Adversarial Dual Network for Person Re-Identification and Beyond**.
Yun-Chun Chen*, Yu-Jhe Li*, Yen-Yu Lin, and Yu-Chiang Frank Wang
arXiv preprint arXiv:2002.09274

Teaching Experience

University of Toronto

Teaching Assistant.

Winter 2021 CSC 413/2516: Neural Networks and Deep Learning. (Instructor: Jimmy Ba)

National Taiwan University

Teaching Assistant.

Spring 2018 EE 5184: Machine Learning.

Fall 2017 EE 1004: Computer Programming.

Honors and Awards

2019 Appier AI Scholarship for ICCV 2019.

2019 Appier AI Scholarship for CVPR 2019.

2019 Appier AI Scholarship for AAAI 2019.

2018 Third Place in IEEE Video and Image Processing (VIP) Cup.

2017 China Technical Consultants Incorporation Scholarship.

2017 Second Prize in NTUEE Undergraduate Innovation Award.

Academic Services

Journal reviewer

International Journal of Computer Vision (IJCV)

IEEE Transactions on Image Processing (TIP)

Conference reviewer

Neural Information Processing Systems (NeurIPS) 2020

International Conference on Learning Representations (ICLR) 2021

International Conference on Machine Learning (ICML) 2021

IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2020, 2021

IEEE International Conference on Computer Vision (ICCV) 2019, 2021

European Conference on Computer Vision (ECCV) 2020

British Machine Vision Conference (BMVC) 2019, 2020

Asian Conference on Computer Vision (ACCV) 2020

IEEE Winter Conference on Applications of Computer Vision (WACV) 2021
IEEE International Conference on Robotics and Automation (ICRA) 2021
Conference on Robot Learning (CoRL) 2020
International Joint Conference on Artificial Intelligence (IJCAI) 2021
AAAI Conference on Artificial Intelligence (AAAI) 2020, 2021
IEEE International Conference on Image Processing (ICIP) 2019

References

Ph.D. Advisor **Animesh Garg**, Assistant Professor, University of Toronto.
✉ garg@cs.toronto.edu

Research Mentor **Ming-Hsuan Yang**, Professor, University of California at Merced.
✉ mhyang@ucmerced.edu

Research Mentor **Jia-Bin Huang**, Assistant Professor, Virginia Tech.
✉ jbhuang@vt.edu

Research Mentor **Yen-Yu Lin**, Professor, National Chiao Tung University.
✉ lin@cs.nctu.edu.tw