

Education

- Sep 2020 **University of Toronto, ON, Canada.**
– Present Ph.D. Student in Computer Science.
Advisors: Animesh Garg and Alec Jacobson.
Committee: Animesh Garg, Alec Jacobson, and Sanja Fidler.
- Sep 2014 **National Taiwan University, Taipei, Taiwan.**
– Jun 2018 B.S. in Electrical Engineering.

Work Experience

- Jun 2022 **Adobe Research, Toronto, ON, Canada.**
– Present Research Scientist Intern. Mentors: Vova Kim and Noam Aigerman.
◦ Working on deep learning for geometry processing.
- Apr 2022 **Dynamic Graphics Project Lab, University of Toronto, ON, Canada.**
– Present Graduate Research Assistant. Advisor: Alec Jacobson.
- Sep 2020 **People, AI and Robots Lab, University of Toronto, ON, Canada.**
– Present Graduate Research Assistant. Advisor: Animesh Garg.
◦ Working on 3D geometric shape assembly.
◦ Worked on multi-finger grasp synthesis with differentiable simulation.
◦ Worked on visual imitation for learning robotic manipulation.
- Sep 2020 **Vector Institute, Toronto, ON, Canada.**
– Present Student Researcher. Advisor: Animesh Garg.
- May 2021 **NVIDIA Research Robotics Team, Seattle, WA, USA.**
– Feb 2022 Research Intern. Manager: Dieter Fox. Mentors: Adithya Murali and Balakumar Sundaralingam.
◦ Worked on implicit representations for robotic grasping and motion planning.
- Jan 2020 **Vision and Learning Lab, University of California, Merced, CA, USA.**
– Jun 2020 Short-term Visiting Scholar. Mentor: Ming-Hsuan Yang.
◦ Worked on 3D human pose and shape estimation from videos.
- Apr 2019 **Vision and Learning Lab, Virginia Tech, VA, USA.**
– Jul 2019 Short-term Visiting Scholar. Mentor: Jia-Bin Huang.
◦ Worked on neural architecture search for image restoration and synthesis.
- Jul 2017 **Computer Vision Lab, Academia Sinica, Taipei, Taiwan.**
– Jan 2019 Research Assistant. Mentors: Yen-Yu Lin, Jia-Bin Huang, and Ming-Hsuan Yang.
◦ Worked on unsupervised domain adaptation, semantic matching, and object co-segmentation.

Selected Publications

Journal Papers

- CVIU 2021 **Self-Attentive 3D Human Pose and Shape Estimation from Videos.**
Yun-Chun Chen, Marco Piccirilli, Robinson Piramuthu, and Ming-Hsuan Yang.
Computer Vision and Image Understanding (CVIU), 2021.
- PAMI 2021 **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), 2021.

Conference Papers

- CVPR 2022 **Neural Shape Mating: Self-Supervised Object Assembly with Adversarial Shape Priors.**
Yun-Chun Chen, Haoda Li, Dylan Turpin, Alec Jacobson, and Animesh Garg.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2022.
- IROS 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.
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2021.
- 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), 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), 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), 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), 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), 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), 2018.

Workshop Papers

- RSS-W 2022 **Neural Motion Fields: Encoding Grasp Trajectories as Implicit Value Functions.**
Yun-Chun Chen*, Adithyavairavan Murali*, Balakumar Sundaralingam*, Wei Yang,
Animesh Garg, and Dieter Fox.
Under review at RSS Workshop on Implicit Representations for Robotic Manipulation, 2022.
- RSS-W 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.
RSS Workshop on Visual Learning and Reasoning for Robotics, 2021. **Spotlight Talk**
- ICML-W 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.
ICML Workshop on Human in the Loop Learning, 2021.

Preprint

- 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

Invited Talk

- May 2022 **Toronto Geometry Colloquium.**
Neural Shape Mating: Self-Supervised Object Assembly with Adversarial Shape Priors.
Invited by Hsueh-Ti Derek Liu, Otman Benckekroun, Selena Ling, Silvia Sellán, and Alec Jacobson.

Honors and Awards

- 2022 University of Toronto Fellowship, Faculty of Arts and Science.

- 2021 Faculty of Arts and Science Program-level Fellowship, University of Toronto.
- 2021 Vector Institute Research Grant.
- 2021 Top 25% of Program Committee Members of AAAI 2021.
- 2021 University of Toronto Fellowship, Faculty of Arts and Science.
- 2020 Faculty of Arts and Science Program-level Fellowship, University of Toronto.
- 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.

Teaching

University of Toronto

- Winter 2022 CSC 375: Algorithmic Intelligence in Robotics. Instructor: Animesh Garg.
- Winter 2022 CSC 413/2516: Neural Networks and Deep Learning. Instructor: Jimmy Ba.
- Winter 2021 CSC 413/2516: Neural Networks and Deep Learning. Instructor: Jimmy Ba.

National Taiwan University

- Spring 2018 EE 5184: Machine Learning.
- Fall 2017 EE 1004: Computer Programming.

Academic Service

Journal Reviewer

- IEEE Robotics and Automation Letters (RA-L)
- International Journal of Computer Vision (IJCV)
- Image and Vision Computing (IVC)
- IET Computer Vision
- IEEE Transactions on Image Processing (TIP)

Senior Program Committee

- International Joint Conference on Artificial Intelligence (IJCAI), 2021

Conference Reviewer/Program Committee

- Neural Information Processing Systems (NeurIPS), 2020, 2021, 2022
- International Conference on Learning Representations (ICLR), 2021, 2022
- International Conference on Machine Learning (ICML), 2021, 2022
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020, 2021, 2022
- IEEE International Conference on Computer Vision (ICCV), 2019, 2021
- European Conference on Computer Vision (ECCV), 2020, 2022
- International Conference on 3D Vision (3DV), 2022
- British Machine Vision Conference (BMVC), 2019, 2020, 2021
- Asian Conference on Computer Vision (ACCV), 2020
- IEEE Winter Conference on Applications of Computer Vision (WACV), 2021, 2022
- IEEE International Conference on Robotics and Automation (ICRA), 2021
- Conference on Robot Learning (CoRL), 2020
- International Joint Conference on Artificial Intelligence (IJCAI), 2022
- AAAI Conference on Artificial Intelligence (AAAI), 2020, 2021, 2022
- IEEE International Conference on Image Processing (ICIP), 2019
- Gordon Research Conference/Seminar in Robotics (GRS), 2022

Volunteer

International Conference on Learning Representations (ICLR), 2021

International Conference on Machine Learning (ICML), 2021

Mentoring

May 2022 **Xinyu Kang**

– Present B.S. student, University of Toronto.
Project: Fractured object reassembly.

Aug 2021 **Haoda Li**

– May 2022 B.S. student, University of Toronto.
Project: Self-supervised object assembly.

Jul 2020 **Quanzhou Li**

– Sep 2021 B.S. student, University of Toronto.
Project: Imitation learning from videos.

Jul 2020 **Haoyu Xiong**

– Sep 2021 B.S. student, Tianjin University.
Project: Imitation learning from videos.

References

Ph.D. Advisor **Animesh Garg**

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Ph.D. Advisor **Alec Jacobson**

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Research Mentor **Ming-Hsuan Yang**

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Research Mentor **Jia-Bin Huang**

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