

## Education

- Sep 2020 **University of Toronto, ON, Canada.**  
– Present Ph.D. Candidate in Computer Science.  
Advisor: Alec Jacobson.  
Committee: Alec Jacobson, Sanja Fidler, Sven Dickinson.
- Sep 2014 **National Taiwan University, Taipei, Taiwan.**  
– Jun 2018 B.S. in Electrical Engineering.

## Work Experience

- Sep 2020 **University of Toronto, ON, Canada.**  
– Present Graduate Research Assistant. Advisor: Alec Jacobson.
  - Working on 3D vision, graphics, geometry and generative AI applications.
  - Worked on cloth detail enhancement and cloth upsampling.
  - Worked on fractured object reassembly.
  - Worked on pairwise 3D geometric shape assembly.
- May 2024 **Meta Reality Labs, Burlingame, CA, USA.**  
– Present Research Scientist Intern.
- Jun 2023 **Adobe Research, Seattle, WA, USA.**  
– Sep 2023 Research Scientist Intern. Mentors: Matheus Gadelha, Vova Kim, Zhiqin Chen.
  - Worked on controllable text-to-3D.
- Jun 2022 **Adobe Research, Toronto, ON, Canada.**  
– Jan 2023 Research Scientist Intern. Mentors: Vova Kim, Noam Aigerman.
  - Worked on progressive representations for mesh compression and transmission.
- May 2021 **NVIDIA Seattle Robotics Lab, WA, USA.**  
– Feb 2022 Remote Research Intern. Manager: Dieter Fox. Mentors: Adithya Murali, Balakumar Sundaralingam.
  - Worked on implicit neural representations for robotic grasping and motion planning.
- Jan 2020 **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 **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 **Academia Sinica, Taipei, Taiwan.**  
– Jan 2019 Research Assistant. Mentors: Yen-Yu Lin, Jia-Bin Huang, Ming-Hsuan Yang.
  - Worked on unsupervised domain adaptation for dense prediction tasks.
  - Worked on weakly supervised 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, Ming-Hsuan Yang.  
Computer Vision and Image Understanding (CVIU), 2021.

- TPAMI 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, Jia-Bin Huang.  
 IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2021.
- [Conference Papers](#)
- A paper on controllable text-to-3D.**  
**Yun-Chun Chen**, others.
- A paper on neural cloth upsampling.**  
**Yun-Chun Chen**, others.
- SIGGRAPH 2023 **Neural Progressive Meshes.**  
**Yun-Chun Chen**, Vladimir G. Kim, Noam Aigerman, Alec Jacobson.  
 ACM SIGGRAPH, 2023.
- NeurIPS 2022 **Breaking Bad: A Dataset for Geometric Fracture and Reassembly.**  
 Silvia Sellán\*, **Yun-Chun Chen**\*, Ziyi Wu\*, Animesh Garg, Alec Jacobson.  
 Neural Information Processing Systems (NeurIPS) Datasets and Benchmarks Track, 2022.
- [Featured Paper Presentation](#)
- ECCV 2022 **Grasp'D: Differentiable Contact-rich Grasp Synthesis for Multi-fingered Hands.**  
 Dylan Turpin, Liquan Wang, Eric Heiden, **Yun-Chun Chen**, Miles Macklin, Stavros Tsogkas, Sven Dickinson, Animesh Garg.  
 European Conference on Computer Vision (ECCV), 2022.
- [Oral Presentation](#)
- CVPR 2022 **Neural Shape Mating: Self-Supervised Object Assembly with Adversarial Shape Priors.**  
**Yun-Chun Chen**, Haoda Li, Dylan Turpin, Alec Jacobson, 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, 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, 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, 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, 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, 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, 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, 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, Dieter Fox.

RSS 2022 Workshop on Implicit Representations for Robotic Manipulation, 2022.

**Spotlight Talk**

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, Animesh Garg.

RSS 2021 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, Animesh Garg.

ICML 2021 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, Yu-Chiang Frank Wang.

arXiv preprint arXiv:2002.09274

## Talks

Aug 2023 **ACM SIGGRAPH.**

Neural Progressive Meshes.

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, Alec Jacobson.

## Patents

2023 **Progressively Generating Fine Polygon Meshes.**

Vladimir G. Kim, **Yun-Chun Chen**, Noam Aigerman, Alec Jacobson,

Filed by Adobe.

2022 **Techniques for Robot Control using Neural Implicit Value Functions.**

Adithyavairavan Murali, Balakumar Sundaralingam, **Yun-Chun Chen**, Dieter Fox, Animesh Garg.

Filed by NVIDIA.

US Patent Application No. 17/856,699.

## Honors and Awards

2023 Faculty of Arts and Science Program-level Fellowship, University of Toronto.

2023 University of Toronto Fellowship, Faculty of Arts and Science.

2023 University of Toronto Fellowship, Faculty of Arts and Science.

2023 University of Toronto Fellowship, Faculty of Arts and Science.

2022 Ph.D. Conference Travel Grant for NeurIPS 2022.

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

2022 University of Toronto Top Up Fellowship, Faculty of Arts and Science.

2022 Vector Institute Research Grant.

2022 University of Toronto Mississauga Travel Grant for CVPR 2022.

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 2024 CSC 420: Introduction to Image Understanding. Instructor: Sanja Fidler.
- Winter 2024 CSC 420: Introduction to Image Understanding. Instructor: David Lindell.
- Winter 2024 CSC 320: Introduction to Visual Computing. Instructor: Kyros Kutulakos.
- Fall 2023 CSC 236: Introduction to the Theory of Computation. Instructor: Francois Pitt.
- Winter 2023 CSC 420: Introduction to Image Understanding. Instructor: Sanja Fidler.
- Winter 2023 CSC 420: Introduction to Image Understanding. Instructor: David Lindell.
- Winter 2023 CSC 413/2516: Neural Networks and Deep Learning. Instructors: Jimmy Ba and Bo Wang.
- Fall 2022 CSC 317: Computer Graphics. Instructor: Karan Singh.
- Fall 2022 CSC 2521: Topics in Computer Graphics. Instructor: Alec Jacobson.
- Winter 2022 CSC 375: Algorithmic Intelligence in Robotics. Instructor: Animesh Garg.
- Winter 2022 CSC 413/2516: Neural Networks and Deep Learning. Instructors: Jimmy Ba and Bo Wang.
- Winter 2021 CSC 413/2516: Neural Networks and Deep Learning. Instructors: Jimmy Ba and Bo Wang.

### National Taiwan University

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

## Academic Service

### Journal Reviewer

- International Journal of Computer Vision (IJCV)
- Image and Vision Computing (IVC)
- IET Computer Vision
- IEEE Robotics and Automation Letters (RA-L)
- 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, 2023, 2024
- Neural Information Processing Systems (NeurIPS) Datasets and Benchmarks Track, 2022, 2023, 2024
- International Conference on Learning Representations (ICLR), 2021, 2022, 2023, 2024
- International Conference on Machine Learning (ICML), 2021, 2022, 2023, 2024
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020, 2021, 2022, 2023, 2024
- IEEE International Conference on Computer Vision (ICCV), 2019, 2021, 2023
- European Conference on Computer Vision (ECCV), 2020, 2022, 2024
- International Conference on 3D Vision (3DV), 2022
- British Machine Vision Conference (BMVC), 2019, 2020, 2021, 2022, 2023, 2024
- Asian Conference on Computer Vision (ACCV), 2020, 2022, 2024
- IEEE Winter Conference on Applications of Computer Vision (WACV), 2021, 2022, 2023, 2024
- ACM SIGGRAPH, 2024
- ACM SIGGRAPH Asia, 2022, 2024

IEEE International Conference on Robotics and Automation (ICRA), 2021  
Conference on Robot Learning (CoRL), 2020  
International Symposium on Robotics Research (ISRR), 2022  
International Joint Conference on Artificial Intelligence (IJCAI), 2022, 2023, 2024  
AAAI Conference on Artificial Intelligence (AAAI), 2020, 2021, 2022, 2023, 2024  
Conference on Lifelong Learning Agents (CoLLAs), 2023, 2024  
Learning on Graphs Conference (LoG), 2023  
International Conference on Artificial Intelligence and Statistics (AISTATS), 2023, 2024  
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

### **Mentor**

SIGGRAPH Grad School Application Mentorship Program, 2022  
Toronto Graduate Application Assistance Program, 2022, 2023

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## References

Ph.D. Advisor **Alec Jacobson**

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University of Toronto  
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Research Mentor **Vova Kim**

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Research Mentor **Ming-Hsuan Yang**

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Research Mentor **Jia-Bin Huang**

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University of Maryland, College Park  
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