

RUOJIN CAI

CONTACT INFORMATION

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Address 2 West Loop Road, New York, NY 10044

RESEARCH INTERESTS

3D Computer Vision, Visual Intelligence

EDUCATION

2019-PRESENT **Ph.D Student in Computer Science**, Cornell University

Advisors: Prof. Noah Snavely and Prof. Bharath Hariharan

2015-2019 **B.E in Automation**, Tsinghua University

GPA: 3.85/4.0 (top 3%)

Graduated with Outstanding Honor

PUBLICATIONS

1. Ruojin Cai, Jason Y. Zhang, Philipp Henzler, Zhengqi Li, Noah Snavely, and Ricardo Martin-Brualla. Can Generative Video Models Help Pose Estimation. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025. **Highlight**.
2. Yuanbo Xiangli, Ruojin Cai, Hanyu Chen, Jeffrey Byrne, and Noah Snavely. Doppelgangers++: Improved Visual Disambiguation with Geometric 3D Features. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025. **Highlight**.
3. Hana Bezalel, Dotan Ankri, Ruojin Cai, and Hadar Averbuch-Elor. Extreme Rotation Estimation in the Wild. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025.
4. Joseph Tung*, Gene Chou*, Ruojin Cai, Guandao Yang, Kai Zhang, Gordon Wetzstein, Bharath Hariharan, and Noah Snavely. MegaScenes: Scene-Level View Synthesis at Scale. *European Conference on Computer Vision (ECCV)*, 2024. (*equal contribution)
5. Ruojin Cai, Joseph Tung, Qianqian Wang, Hadar Averbuch-Elor, Bharath Hariharan, and Noah Snavely. Doppelgangers: Learning to Disambiguate Images of Similar Structures. *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 2023. **Oral**.
6. Qianqian Wang, Yen-Yu Chang, Ruojin Cai, Zhengqi Li, Bharath Hariharan, Aleksander Holynski, and Noah Snavely. Tracking Everything Everywhere All at Once. *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 2023. **Best Student Paper Award**.
7. Haotong Lin, Qianqian Wang, Ruojin Cai, Sida Peng, Hadar Averbuch-Elor, Xiaowei Zhou, and Noah Snavely. Neural Scene Chronology. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.

8. Ruojin Cai, Bharath Hariharan, Noah Snavely, and Hadar Averbuch-Elor. Extreme Rotation Estimation using Dense Correlation Volumes. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021.
9. Le Yang*, Haojun Jiang*, Ruojin Cai, Yulin Wang, Shiji Song, Gao Huang, and Qi Tian. CondenseNet V2: Sparse Feature Reactivation for Deep Networks. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021. (*equal contribution)
10. Ruojin Cai*, Guandao Yang*, Hadar Averbuch-Elor, Zekun Hao, Serge Belongie, Noah Snavely, and Bharath Hariharan. Learning Gradient Fields for Shape Generation. *European Conference on Computer Vision (ECCV)*, 2020. **Spotlight**. (*equal contribution)
11. Zhixiang Chen*, Ruojin Cai*, Jiwen Lu, Jianjiang Feng, and Jie Zhou. Order-Sensitive Deep Hashing for Multimorbidity Medical Image Retrieval. *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, 2018. (*equal contribution)

RESEARCH EXPERIENCE

- 2019-PRESENT **Graduate Research Assistant in Department of Computer Science**, Cornell University
Advisors: Prof. Noah Snavely and Prof. Bharath Hariharan
- 2023-2024 **Research Intern**, Google
Advisors: Ricardo Martin-Brualla
- 2021 **Research Intern**, Adobe
Advisors: Kalyan Sunkavalli and Yannick Hold-Geoffroy
- 2018 **Research Intern in Department of Computer Science**, Cornell University
Advisors: Prof. Kilian Weinberger and Prof. Gao Huang
- 2017-2019 **Undergraduate Researcher in Department of Automation**, Tsinghua University
Advisors: Prof. Jie Zhou and Prof. Jiwen Lu

INVITED TALKS

- 2022 Learning 3D Structures under Extreme Scenarios
Vision and Graphics seminar at Tel-Aviv University
- 2022 Learning Gradient Fields for Shape Generation
Toronto Geometry Colloquium

HONORS AND AWARDS

- 2023 ICCV Best Student Paper Award
- 2022 Snap Research Fellowship
- 2018 Comprehensive Excellent Scholarship of Tsinghua University
- 2017 Qualcomm Scholarship
- 2015 National Scholarship

SERVICE

- Paper reviewer of CVPR, ECCV, ICCV, 3DV, Eurographics, SIGGRAPH Asia, etc.
- Diversity, Equity, and Inclusion (DEI) Committee Volunteer, CVPR 2022.
- Teaching Assistant:
 - Introduction to Computer Graphics (2019 Fall)
 - Foundations of Artificial Intelligence (2020 Spring)
 - Introduction to Computer Vision (2021-2024 Spring)