Zhengqi Li | Curriculum Vitae

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Education

Cornell Tech, Cornell University **New York, NY**
Ph.D. in computer science, GPA: 4.00/4.00 *2016–2021*
Advisor: Prof. Noah Snavely

University of Minnesota, Twin Cities **Minneapolis, MN**
Bachelor of Computer Engineering with High Distinction, GPA: 3.99/4.00 *2013–2016*

Research Interests

- 3D/4D computer vision, image-based rendering, computational photography.

Publications

- Qianqian Wang, Yen-Yu Chang, Ruojin Cai, **Zhengqi Li**, Bharath Hariharan, Aleksander Holynski, Noah Snavely. Tracking Everything Everywhere All at Once. *International Conference on Computer Vision (ICCV)*, 2023 (**Oral**)
- **Zhengqi Li**, Qianqian Wang, Forrester Cole, Richard Tucker, Noah Snavely. DynIBaR: Neural Dynamic Image-Based Rendering. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023 (**Best Paper Honorable Mention Award**)
- **Zhengqi Li**, Qianqian Wang, Forrester Cole, Richard Tucker, Noah Snavely. DynIBaR: Neural Dynamic Image-Based Rendering. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023 (**Best Paper Honorable Mention Award**)
- **Zhengqi Li**, Qianqian Wang, Forrester Cole, Richard Tucker, Noah Snavely. DynIBaR: Neural Dynamic Image-Based Rendering. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023 (**Best Paper Honorable Mention Award**)
- Lucy Chai, Richard Tucker, **Zhengqi Li**, Phillip Isola, Noah Snavely. Persistent Nature: A Generative Model of Unbounded 3D Worlds. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023
- Mohammed Suhail, Erika Lu, **Zhengqi Li**, Noah Snavely, Leonid Sigal, Forrester Cole. Associating Objects and their Effects in Unconstrained Monocular Video. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023
- **Zhengqi Li**, Qianqian Wang, Noah Snavely, Angjoo Kanazawa. InfiniteNature-Zero: Learning Perpetual View Generation of Natural Scenes from Single Images. *European Conference on Computer Vision (ECCV)*, 2022 (**Oral**)
- Zhoutong Zhang, Forrester Cole, **Zhengqi Li**, Michael Rubinstein, Noah Snavely, William T. Freeman . Structure and Motion for Casual Videos. *European Conference on Computer Vision (ECCV)*, 2022
- Jiaming Sun, Xi Chen, Qianqian Wang, **Zhengqi Li**, Hadar Averbuch-Elor, Xiaowei Zhou, Noah Snavely. Neural 3D Reconstruction in the Wild. *International Conference on Computer Graphics and Interactive Technique (SIGGRAPH Conference Proceeding)*, 2022

- Qianqian Wang, **Zhengqi Li**, David Salesin, Noah Snavely, Brian Curless, Janne Kontkanen. 3D Moments from Near-Duplicate Photos. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022
- Vickie Ye, **Zhengqi Li**, Richard Tucker, Angjoo Kanazawa, Noah Snavely. Deformable Sprites for Unsupervised Video Decomposition. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022 (**Oral**)
- Kai Zhang, Fujun Luan, **Zhengqi Li**, Noah Snavely. IRON: Inverse Rendering by Optimizing Neural SDFs and Materials from Photometric Images . *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022 (**Oral**)
- **Zhengqi Li**, Simon Niklaus, Noah Snavely, Oliver Wang. Neural Scene Flow Fields for Space-Time View Synthesis of Dynamic Scenes. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021
- **Zhengqi Li**, Wenqi Xian, Abe Davis, Noah Snavely. Crowdsampling the Plenoptic Function. *European Conference on Computer Vision (ECCV)*, 2020 (**Oral**)
- **Zhengqi Li**, Tali Dekel, Forrester Cole, Richard Tucker, Noah Snavely, Ce Liu, William T. Freeman. MannequinChallenge: Learning the Depths of Moving People by Watching Frozen People. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*
- Wenqi Xian*, **Zhengqi Li***, Matthew Fisher, Jonathan Eisenmann, Eli Shechtman, Noah Snavely. UprightNet: Geometry-Aware Camera Orientation Estimation from Single Images. *International Conference on Computer Vision (ICCV)*, 2019 (* equal contribution)
- **Zhengqi Li**, Tali Dekel, Forrester Cole, Richard Tucker, Noah Snavely, Ce Liu, William T. Freeman. Learning the Depths of Moving People by Watching Frozen People. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019 (**Best Paper Honorable Mention**)
- **Zhengqi Li**, Noah Snavely. CGINTRINSICS: Better Intrinsic Image Decomposition through Physically-Based Rendering. *European Conference on Computer Vision (ECCV)*, 2018
- **Zhengqi Li**, Noah Snavely. Learning Intrinsic Image Decomposition from Watching the World. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018 (**Spotlight**)
- **Zhengqi Li**, Noah Snavely. MegaDepth: Learning Single-View Depth Prediction from Internet Photos. *Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018 (Invited to be presented at Bridges to 3D Workshop, CVPR 2018)
- **Zhengqi Li**, Volkan Isler. Large Scale Image Mosaic Construction for Agricultural Applications. *IEEE Robotics and Automation Letters (RA-L)*, 2016
- **Zhengqi Li**, Volkan Isler. Large Scale Image Mosaic Construction for Agricultural Applications. *IEEE International Conference on Robotics and Automation (ICRA)*, 2016

Experience

Google Research
Research Scientist *08/2021–*

- Research on varieties of computer vision and graphics topics.

Cornell Graphics and Vision Group **Cornell Tech**
Advisor: Prof. Noah Snavely *09/2016–05/2021*

- Research on varieties of topics of inverse graphics for in-the-wild scenarios.

Research Intern, Adobe Research **Seattle & NYC**
Collaborators: Oliver Wang, Simon Niklaus *05/2020–11/2020*

- Research on novel view and time synthesis from monocular videos of complex dynamic scenes.

Research Intern, Facebook Reality Lab **MPK**
Collaborator: Prof. Fernando De la Torre *05/2019–08/2019*

- Research on joint object poses and shape reconstruction from unlabeled videos.

Intern, Google AI Research **Cambridge & NYC**
Mentor: Tali Dekel. Teams: Prof. William T. Freeman and Prof. Noah Snavely *05/2018–02/2019*

- Research on learning the depths of dynamic scenes with moving people from a moving camera.

Project Tango, Google

Multiple Autonomous Robotic Systems (MARS) Laboratory **UMN**
Advisor: Prof. Stergios Roumeliotis *08/2014–05/2016*

- Development on vision-aided inertial navigation system (VINS) of Google Project Tango.

Precision Agriculture

Robotic Sensor Networks (RSN) Laboratory **UMN**
Advisor: Prof. Volkan Isler *02/2015–09/2015*

- Large scale image mosaicking algorithm for agriculture applications.

Awards

- **Best Paper Award Candidate**, CVPR 2023 2023
- **Baidu AI Top 100 New Researchers**, Baidu 2021
- **Google PhD Fellowship**, Google 2020
- **Adobe Research Fellowship**, Adobe Research 2020
- **Best Paper Honorable Mention Award**, CVPR 2019 2019
- **TA Outstanding Award**, Cornell University 2017
- **Outstanding Undergraduate Researchers Honorable Mention Award**, Computing Research Association 2016
- **Dean's List**, College of Science and Engineering, University of Minnesota 2014-2016
- **National Scholarship of China**, Ministry of Education of China, 2012

Patent

- Oliver Wang, Simon Niklaus, **Zhengqi Li**. View synthesis of a dynamic scene . *US Patent App. 17/204,571, 2022*
- Tali Dekel, Cole Forrester, Ce Liu, William Freeman, Richard Tucker, Noah Snavely, **Zhengqi Li**. Depth Determination for Images Captured with a Moving Camera and Representing Moving Features . *US Patent App. 16 / 578,215, 2021*
- Volkan Isler and **Zhengqi Li**. Large scale image mosaic construction for agricultural applications. *US Patent App. 15/415,347, 2018*

Invited Talks

- 4D Dynamic Reconstruction Workshop, CVPR 2023
- Peking University Computer Vision and Graphics Seminar, 2022
- China Society of Image and Graphics (CSIG) 3DV, 2021

- Sun Yat-Sen University Computer Vision and Graphics Seminar, 2021
- MIT 3D Representations Seminar, 2021
- UCSD Computer Vision and Graphics Seminar, 2021
- NVIDIA GPU Technology Conference (GTC), 2020
- GAMES: Graphics And Mixed Environment Seminar (GAMES), 2019

Other Services

- Area Chair
  - Computer Vision and Pattern Recognition (CVPR)
- Technical paper reviewer
  - Computer Vision and Pattern Recognition (CVPR)
  - European Conference on Computer Vision (ECCV)
  - International Conference on Computer Vision (ICCV)
  - International Conference on 3D Vision (3DV)
  - Asian Conference on Computer Vision (ACCV)
  - British Machine Vision Conference (BMVC)
  - International Journal of Computer Vision (IJCV)
  - ACM SIGGRAPH
  - ACM SIGGRAPH Asia
  - IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
  - IEEE Robotics and Automation Letters (RA-L)
  - International Conference on Robotics and Automation (ICRA)
  - International Conference on Intelligent Robots and Systems (IROS)
  - IEEE Transactions on Image Processing (TIP)
  - IEEE VR
- Teaching Assistant
  - CS5787: Deep Learning, Cornell Tech — Spring 2019-2020
  - CS5670: Introduction to Computer Vision, Cornell University — Spring 2017
  - CS4750/5750: Foundations of Robotics, Cornell University — Fall 2016