

Shenlong Wang

shenlong@illinois.edu
Room 3336, 201 N Goodwin Ave
Urbana, Illinois

217-991-2826 (mobile)
<https://shenlong.web.illinois.edu/>

Employment

- **Assistant Professor** Aug 2021 - present
University of Illinois at Urbana-Champaign Urbana, IL
- **Research Scientist** Mar 2017 - Mar 2021
Uber Advanced Technologies Group Toronto Toronto, ON
- **Research Intern** Jun 2016 - Sept 2016
Snapchat Research Venice, CA
- **Research Intern** Aug 2015 - Nov 2015
Microsoft Research Redmond, Interactive 3D Group Redmond, WA
- **Research Assistant** Jul 2011 - Aug 2013
The Hong Kong Polytechnic University Hong Kong, China

Education

- **University of Toronto** Toronto, Ontario
Doctor of Philosophy in Computer Science Jan. 2014 - Aug. 2021
– Advisor: Prof. Raquel Urtasun
– Thesis title: *Deep structured models for spatial intelligence.*
- **Toyota Technological Institute at Chicago** Chicago, Illinois
Graduate student in Computer Science Sep. 2013 - Jan. 2014
- **Northwestern Polytechnical University** Xi'an, China
Master of Science in Pattern Recognition Sep. 2010 - Mar. 2013
- **Northwestern Polytechnical University** Xi'an, China
Bachelor of Science in Computational Mathematics Sep. 2006 - Jun. 2010

Publications

* indicates equal contribution; underline indicates student/intern/resident mentees

- 1.
2. Hongchi Xia, Chih-Hao Lin, Hao-Yu Hsu, Quentin Leboutet, Katelyn Gao, Michael Paulitsch, Benjamin Ummenhofer, **Shenlong Wang**, “HoloScene: Simulation-Ready Interactive 3D Worlds from a Single Video,” *Advances in Neural Information Processing Systems (NeurIPS)*, 2025.
3. Jing Wen, Alex Schwing, **Shenlong Wang**, “NoPo-Avatar: Generalizable and Animatable Avatars from Sparse Inputs without Human Poses,” *Advances in Neural Information Processing Systems (NeurIPS)*, 2025.
4. Shaowei Liu, David Yifan Yao, Saurabh Gupta, **Shenlong Wang**, “Visual Sync: Multi-Camera Synchronization via Cross-View Object Motion,” *Advances in Neural Information Processing Systems (NeurIPS)*, 2025.
Yihan Pang, Sushant Kondguli, **Shenlong Wang**, Sarita Adve, “Ada: A Distributed, Power-Aware, Real-Time Scene Provider for XR”, *IEEE International Symposium on Mixed and Augmented Reality, (ISMAR)*, 2025 (**Best Paper Award**).
5. Tianhang Cheng, Albert J. Zhai, Evan Z. Chen, Rui Zhou, Yawen Deng, Zitong Li, Kejie Zhao, Janice Shiu, Qianyu Zhao, Yide Xu, Xinlei Wang, Yuan Shen, Sheng Wang, Lisa Ainsworth, Kaiyu Guan, **Shenlong Wang**, “Demeter: A Parametric Model of Crop Plant Morphology from the Real World,” *IEEE International Conference on Computer Vision (ICCV)*, 2025.

6. Chih-Hao Lin, Zian Wang, Ruofan Liang, Yuxuan Zhang, Sanja Fidler, **Shenlong Wang**, Zan Gojcic, “Controllable Weather Simulation and Removal with Video Diffusion Models,” *IEEE International Conference on Computer Vision (ICCV)*, 2025.
7. Xiaoxue Chen, Bhargav Chandaka, Chih-Hao Lin, Ya-Qin Zhang, David Forsyth, Hao Zhao, **Shenlong Wang**, “InvRGB+L: Inverse Rendering of Complex Scenes with Unified Color and LiDAR Reflectance Modeling,” *IEEE International Conference on Computer Vision (ICCV)*, 2025.
8. Jiawei Xu, Kai Deng, Zexin Fan, **Shenlong Wang**, Jin Xie, Jian Yang, “AD-GS: Object-Aware B-Spline Gaussian Splatting for Self-Supervised Autonomous Driving,” *IEEE International Conference on Computer Vision (ICCV)*, 2025.
9. Hanxiao Jiang, Hao-Yu Hsu, Kaifeng Zhang, Hsin-Ni Yu, **Shenlong Wang**, Yunzhu Li, “PhysTwin: Physics-Informed Reconstruction and Simulation of Deformable Objects from Videos,” *IEEE International Conference on Computer Vision (ICCV)*, 2025.
10. Bhargav Chandaka, Gloria Xinyue Wang, Haozhe Chen, Henry Che, Albert J. Zhai, **Shenlong Wang**, “Human-like Navigation in a World Built for Humans,” *Conference on Robot Learning (CoRL)*, 2025.
11. Joao Marcos Correia Marques, Nils Dengler, Jesper MÅijcke, Tobias Zaenker, **Shenlong Wang**, Maren Bennewitz, Kris Hauser, “Map Space Belief Prediction for Manipulation-Enhanced Mapping”, *Robotics: Science and Systems (RSS)*, 2025.
12. David Yifan Yao, Albert J. Zhai, **Shenlong Wang**, “Uni4D: Unifying Large Vision Models for 4D Modeling from a Single Video”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025. (**Highlight**)
13. Boyuan Chen, Hanxiao Jiang, Shaowei Liu, Saurabh Gupta, Yunzhu Li, Hao Zhao, **Shenlong Wang**, “PhysGen3D: Crafting a Miniature Interactive World from a Single Image”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025.
14. Hongchi Xia, Entong Su, Marius Memmel, Arhan Jain, Raymond Yu, Numfor Mbiziwo-Tiapo, Ali Farhadi, Abhishek Gupta, **Shenlong Wang**, Wei-Chiu Ma, “DRAWER: Digital Reconstruction and Articulation With Environment Realism”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025.
15. Zhi-Hao Lin, Jia-Bin Huang, Zhengqin Li, Zhao Dong, Christian Richardt, Michael ZollhÄuffer, Tuotuo Li, Johannes Kopf, **Shenlong Wang**, Changil Kim, “IRIS: Inverse Rendering of Indoor Scenes from Low Dynamic Range Images”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025.
16. Ziyue Zhu, **Shenlong Wang**, Jin Xie, Jiang-Jiang Liu, Jingdong Wang, Jian Yang, “VoxelSplat: Dynamic Gaussian Splatting as an Effective Loss for Occupancy and Flow Prediction”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025.
17. Vlas Zyrianov*, Henry Che*, Zhijian Liu, **Shenlong Wang**, “LidarDM: Generative LiDAR Simulation in a Generated World”, *International Conference on Robotics and Automation (ICRA)*, 2025
18. Jing Wen, Alex Schwing, **Shenlong Wang**, “Life-GOM: Generalizable Human Rendering with Learned Iterative Feedback Over Multi-Resolution Gaussians-on-Mesh”, *International Conference on Learning Representations (ICLR)*, 2025.
19. Hao-Yu Hsu, Zhi-Hao Lin, Albert J. Zhai, Hongchi Xia, **Shenlong Wang**, “AutoVFX: Physically Realistic Video Editing from Natural Language Instructions,” *Conference on 3D Vision (3DV)*, 2025.
20. Yuqun Wu, Jae Yong Lee, Chuhang Zou, **Shenlong Wang**, Derek Hoiem, “MonoPatchNeRF: Improving Neural Radiance Fields with Patch-based Monocular Guidance,” *Conference on 3D Vision (3DV)*, 2025.
21. Jae Yong Lee, Yuqun Wu, Chuhang Zou, Derek Hoiem, **Shenlong Wang**, “Plenoptic PNG: Real-Time Neural Radiance Fields in 150 KB,” *Conference on 3D Vision (3DV)*, 2025.

22. Zhi-Hao Lin, Bohan Liu, Yi-Ting Chen, Kuan Sheng Chen, David Forsyth, Jia-Bin Huang, Anand Bhattad, **Shenlong Wang**, “UrbanIR: Large-Scale Urban Scene Inverse Rendering from a Single Video,” *Conference on 3D Vision (3DV)*, 2025.
23. Hanxiao Jiang, Binghao Huang, Ruihai Wu, Zhuoran Li, Shubham Garg, Hooshang Nayyeri, **Shenlong Wang**, Yunzhu Li, “RoboEXP: Action-Conditioned Scene Graph via Interactive Exploration for Robotic Manipulation”, *Conference on Robot Learning (CoRL)*, 2024. (**Best Paper Nomination** at ICRA 2024 Workshop on Vision-Language Models for Manipulation)
24. Cheng Sheng, Minkyun Kim, Lin Song, Chengyu Yang, Yiquan Jin, **Shenlong Wang**, Naira. Hovakimyan, “DiffTune: Auto-Tuning through Auto-Differentiation,” *IEEE Transactions on Robotics (TRO)*, 2024
25. Ran Tao, Cheng Sheng, Xiaofeng Wang, Shenlong Wang, Naira Hovakimyan, “DiffTune-MPC: Closed-Loop Learning for Model Predictive Control”, *IEEE Robotics and Automation Letters (RA-L)*, 2024
26. Shaowei Liu, Zhongzheng Ren, Saurabh Gupta, **Shenlong Wang**, “PhysGen: Rigid-Body Physics-Grounded Image-to-Video Generation”, *European Conference on Computer Vision (ECCV)*, 2024.
27. Yuan Shen, Duygu Ceylan, Paul Guerrero, Zexiang Xu, Niloy J. Mitra, **Shenlong Wang**, Anna Frushttck, “SuperGaussian: Repurposing Video Models for 3D Super Resolution”, *European Conference on Computer Vision (ECCV)*, 2024.
28. Hongchi Xia, Zhi-Hao Lin, Wei-Chiu Ma, **Shenlong Wang**, “Video2Game: Real-time, Interactive, Realistic and Browser-Compatible Environment from a Single Video”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024
29. Albert Jianqiao Zhai, Yuan Shen, Emily Chen, Gloria Wang, Xinlei Wang, Sheng Wang, Kaiyu Guan, **Shenlong Wang**, “NeRF2Physics: Physical Property Understanding from Language-Embedded Feature Fields”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024
30. Jing Wen, Xiaoming Zhao, Zhongzheng Ren, Alex Schwing, **Shenlong Wang**, “GoMAvatar: Efficient Animatable Human Modeling from Monocular Video Using Gaussians-on-Mesh”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024
31. Benjamin Ummenhofer, Sanskar Agrawal, Rene Sepulveda, Yixing Lao, Kai Zhang, Tianhang Cheng, Stephen Richter, **Shenlong Wang**, German Ros, “Objects With Lighting: A Real-World Dataset for Evaluating Reconstruction and Rendering for Object Relighting”, *International Conference on 3D Vision (3DV)*, 2024 (**Oral**)
32. Joao M C Marques, Albert Jianqiao Zhai, **Shenlong Wang**, Kris Hauser, “On the Overconfidence Problem in Semantic 3D Mapping”, *International Conference on Robotics and Automation (ICRA)*, 2024
33. Yuan Shen, Bhargav Chandaka, Zhi-Hao Lin, Albert Jianqiao Zhai, Hang Cui, David Forsyth, **Shenlong Wang**, “Sim-on-Wheels: Physical World in the Loop Simulation for Autonomous Driving” *Robotics and Automation Letters (RAL)*, 2023
34. Tianhang Cheng, Wei-Chiu Ma, Kaiyu Guan, Antonio Torralba, **Shenlong Wang**, “Structure from Duplicates: Neural Inverse Graphics from a Pile of Objects”, *Neural Information Processing Systems (NeurIPS)*, 2023
35. Yuan Li, Zhi-Hao Lin, Jia-Bin Huang, David Forsyth, **Shenlong Wang**, “ClimateNeRF: Extreme Weather Synthesis in Neural Radiance Field”, *International Conference on Computer Vision (ICCV)*, 2023
36. Albert Jianqiao Zhai, **Shenlong Wang**, “PEANUT: Predicting and Navigating to Unseen Targets”, *International Conference on Computer Vision (ICCV)*, 2023
37. Xiyue Zhu, Vlas Zyrianov, Zhijian Liu, **Shenlong Wang**, “MapPrior: Bird’s-Eye View Map Layout Estimation with Generative Models”, *International Conference on Computer Vision (ICCV)*, 2023
38. Shaowei Liu, Yang Zhou, Jimei Yang, Saurabh Gupta*, **Shenlong Wang***, “ContactGen: Generative Contact Modeling for Grasp Generation”, *International Conference on Computer Vision (ICCV)*, 2023

39. Shaowei Liu, Saurabh Gupta*, **Shenlong Wang***, “Building Rearticulable Models for Arbitrary 3D Objects from 4D Point Clouds”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023
40. Sheng Cheng, Lin Song, Minkyung Kim, **Shenlong Wang**, Naira Hovakimyan, “DiffTune+: Hyperparameter-Free Auto-Tuning using Auto-Differentiation”, *Annual Learning for Dynamics and Control Conference (LADC)*, 2023 (**Oral**)
41. Yuefan Wu*, Zeyuan Chen*, Shaowei Liu, Zhongzheng Ren, **Shenlong Wang**, “CASA: Category-agnostic Skeletal Animal Reconstruction”, *Neural Information Processing Systems (NeurIPS)*, 2022
42. Yuan Shen, Wei-Chiu Ma, **Shenlong Wang**, “SGAM: Building a Virtual 3D World through Simultaneous Generation and Mapping”, *Neural Information Processing Systems (NeurIPS)*, 2022
43. Vlas Zyrianov, Xiyue Zhu, **Shenlong Wang**, “Learning to Generate Realistic LiDAR Point Cloud”, *European Conference on Computer Vision (ECCV)*, 2022
44. Zhi-Hao Lin, Wei-Chiu Ma, Yu-Chiang Frank Wang, Hao-Yu Max Hsu, **Shenlong Wang**, “NeurMiPs: Neural Mixture of Planar Experts for View Synthesis”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022
45. Wei-Chiu Ma, Joyce Yang, **Shenlong Wang**, Raquel Urtasun, Antonio Torralba, “Virtual Correspondence”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022
46. Shivam Duggal*, Zihao Wang, Wei-Chiu Ma, Siva Manivasagam, Justin Liang*, **Shenlong Wang**, Raquel Urtasun, “Mending Neural Implicit Modeling for 3D Vehicle Reconstruction in the Wild”, *Winter Conference on Applications of Computer Vision (WACV)*, 2022
47. Donghang Wu, Wei-quan Liu, Bowen Fang, Linwei Chen, Yu Zang, Lei Zhao, **Shenlong Wang**, Cheng Wang, JosÁl Marcato, Jonathan Li, “Intracity Temperature Estimation by Physics-Informed Neural Network Using Modeled Forcing Meteorology and Multispectral Satellite Imagery,” *IEEE Transactions on Geoscience and Remote Sensing (TGRS)*, 2022
48. Yun Chen*, Frieda Rong*, Shivam Duggal*, **Shenlong Wang**, Xinchun Yan, Siva Manivasagam, Shangjie Xue, Ersin Yumer, Raquel Urtasun, “GeoSim: Photorealistic Image Simulation with Geometry-Aware Composition”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021. (**Oral, Best Paper Candidate**)
49. Shuhan Tan, Kelvin Wong, **Shenlong Wang**, Siva Manivasagam, Mengye Ren and Raquel Urtasun, “SceneGen: Learning to Generate Realistic Traffic Scenes”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021
50. Ze Yang, **Shenlong Wang**, Siva Manivasagam, Zeng Huang, Wei-Chiu Ma, Xinchun Yan, Ersin Yumer, Raquel Urtasun, S3: Neural Shape, Skeleton, and Skinning Fields for 3D Human Modeling, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021
51. Anqi Joyce Yang*, Can Cui*, Ioan Andrei BĂácsan*, Raquel Urtasun, **Shenlong Wang**, “Asynchronous Multi-View SLAM”, *International Conference on Robotics and Automation (ICRA)*, 2021
52. Sourav Biswas, Jerry Liu, Kelvin Wong, **Shenlong Wang**, Raquel Urtasun, “MuSCLE: Multi Sweep Compression of LiDAR using Deep Entropy Models”, *Neural Information Processing System (NeurIPS)*, 2020.
53. Julieta Martinez, Jack Fan, Andrei BĂarsan, GellÉrt Mátyus, **Shenlong Wang**, Raquel Urtasun, “Pit30M: A Benchmark for Global Localization in the Age of Self-Driving Cars”, *International Conference on Intelligent Robots and Systems (IROS)* 2020. (**Oral, Best Application Paper Finalist**)
54. Wei-Chiu Ma, **Shenlong Wang**, Sivabalan Manivasagam, Jiayuan Gu, Raquel Urtasun, “Deep Feedback Inverse Problem Solver”, *European Conference on Computer Vision (ECCV)*, 2020. (**Spotlight**)

55. Wenyuan Zeng, **Shenlong Wang**, Renjie Liao, Yun Chen, Bin Yang, Raquel Urtasun, “DSDnet: Deep Structured Self-Driving Network”, *European Conference on Computer Vision (ECCV)*, 2020.
56. Sivabalan Manivasagam, **Shenlong Wang**, Kelvin Wong, Wenyuan Zeng, Wei-Chiu Ma, Raquel Urtasun, “LidarSIM: Realistic LiDAR Simulation by Leveraging the Real World”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, Seattle, 2020. **(Oral)**
57. Lila Huang, **Shenlong Wang**, Kelvin Wong, Jerry Liu, Raquel Urtasun, “OctSqueeze: Octree-Structured Entropy Model for LiDAR Compression”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, Seattle, 2020. **(Oral)**
58. Kelvin Wong, **Shenlong Wang**, Mengye Ren, Raquel Urtasun, “Identifying Unknown Instances for Autonomous Driving”, *International Conference on Robot Learning (CoRL)*, Osaka, Japan, 2019. **(Spotlight)**
59. Jerry Liu, **Shenlong Wang**, Raquel Urtasun, “Deep Stereo Compression”, *International Conference on Computer Vision (ICCV)*, Seoul, South Korea, 2019. **(Oral)**
60. Shivam Duggal, **Shenlong Wang**, Wei-Chiu Ma, Rui Hu, Raquel Urtasun, “Differentiable Deep PatchMatch for Efficient Stereo Matching”, *International Conference on Computer Vision (ICCV)*, Seoul, South Korea, 2019.
61. Renjie Liao, Yujia Li, Yang Song, **Shenlong Wang**, Charlie Nash, Yujia Li, William L. Hamilton, David Duvenaud, Raquel Urtasun, and Richard Zemel, “Efficient Graph Generation with Graph Recurrent Attention Networks”, *Neural Information Processing Systems (NeurIPS)*, Long Beach, CA, 2019.
62. Wei-Chiu Ma*, Ignacio Tartavull*, Andrei Bârsan*, **Shenlong Wang***, Gellért Mátyus, Min Bai, Shrinidhi Kowshika, Andrei Pokrovsky, Raquel Urtasun, “Exploiting Sparse Semantic HD Maps for Affordable Localization”, *International Conference on Intelligent Robots and Systems (IROS)*, Macau, China, 2019. **(Oral)**
63. Wei-Chiu Ma, **Shenlong Wang**, Rui Hu, Yuwen Xiong, Raquel Urtasun, “Deep Structured Scene Flow”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, Long Beach, CA, 2019.
64. Xinkai Wei*, Andrei Barsan*, **Shenlong Wang***, Julieta Martinez, Raquel Urtasun, “Learning to Localize through Compressed Binary Maps”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, Long Beach, CA, 2019.
65. Justin Liang*, Namdar Homayounfar*, Wei-Chiu Ma, **Shenlong Wang**, Raquel Urtasun, “Convolutional Recurrent Network for Road Boundary Extraction”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, Long Beach, CA, 2019.
66. Andrei Bârsan*, **Shenlong Wang***, Andrei Pokrovsky, Raquel Urtasun, “Learning to Localize with a Lidar Intensity Map”, *Conference on Robot Learning (CORL)*, Zurich, Switzerland, 2018. **(Spotlight)**
67. Min Bai*, Gellert Mattyus*, Namdar Homayounfar, **Shenlong Wang**, Shrinidhi Kowshika Lakshmikanth, Raquel Urtasun, “Deep Multi-Sensor Lane Detection”, *International Conference on Intelligent Robots and Systems (IROS)*, Madrid, Spain, 2018. **(Spotlight)**
68. Ming Liang, Bin Yang, **Shenlong Wang**, Raquel Urtasun, “Deep Continuous Fusion for Multi-Sensor 3D Object Detection”, *European Conference on Computer Vision (ECCV)*, Munich, Germany, 2018.
69. **Shenlong Wang***, Simon Suo*, Wei-Chiu Ma, Andrei Pokrovsky, Raquel Urtasun, “Deep Parameteric Continuous Convolutional Neural Networks”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, Salt Lake City, UT, 2018. **(Spotlight)**
70. Daniel Ron, Kun Duan, Chongyang Ma, Ning Xu, **Shenlong Wang**, Sumant Hanumante and Dhritiman Sagar, “Monocular Depth Estimation via Deep Structured Models with Ordinal Constraints”. *International Conference on 3D Vision (3DV)*, Verona, Italy, 2018.
71. **Shenlong Wang**, Min Bai*, Gellert Mattyus*, Hang Chu*, Wenjie Luo, Bin Yang, Justin Liang, Joel Cheverie, Sanja Fidler, Raquel Urtasun, “TorontoCity: Seeing the World with a Million Eyes”, *International Conference on Computer Vision (ICCV)*, Venice, Italy, 2017. **(Spotlight)**

72. **Shenlong Wang**, Linjie Luo, Ning Zhang, Li-Jia Li, “AutoScaler: Scale-Attention Networks for Visual Correspondence”, *British Conference on Computer Vision (BMVC)*, London, UK, 2017. (Oral)
73. Wei-Chiu Ma, **Shenlong Wang**, Marcus A. Brubaker, Sanja Fidler, and Raquel Urtasun, “Find Your Way by Observing the Sun and Other Semantic Cues”, *International Conference on Robotics and Automation (ICRA)*, Singapore, 2017. (Oral)
74. **Shenlong Wang**, Sanja Fidler, Raquel Urtasun, “Proximal Deep Structured Models”, *Neural Information Processing Systems (NeurIPS)*, Barcelona, Spain, 2016.
75. Hang Chu, **Shenlong Wang**, Sanja Fidler, and Raquel Urtasun, “HouseCraft: Building Houses from Rental Ads and Street Views”, *European Conference on Computer Vision (ECCV)*, Amsterdam, Netherlands, 2016
76. Sergio Orts Escolano, Christoph Rhemann, Sean Fanello, Wayne Chang, Adarsh Kowdle, Yury Degtyarev, David Kim, Philip Davidson, Sameh Khamis, Mingsong Dou, Vladimir Tankovich, Charles Loop, Qin Cai, Philip Chou, Sarah Mennicken, Julien Valentin, Vivek Pradeep, **Shenlong Wang**, Sing Bing Kang, Pushmeet Kohli, Yuliya Lutchyn, Cem Keskin, Shahram Izadi, “Holoportation: Virtual 3d teleportation in real-time”, *ACM User Interface Software and Technology Symposium (UIST)*, Tokyo, Japan, 2016. (Oral)
77. **Shenlong Wang**, Sean Fanello, Christoph Rhemann, Shahram Izadi, and Pushmeet Kohli, “The Global Patch Collider”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, Las Vegas, NV, 2016. (Oral)
78. Gellért Mátyus, **Shenlong Wang**, Sanja Fidler, Raquel Urtasun, “HD Maps: Fine-grained Road Segmentation by Parsing Ground and Aerial Images”, *International Conference on Computer Vision and Pattern Recognition (ICCV)*, Santiago, Chile, 2015.
79. **Shenlong Wang**, Sanja Fidler, Raquel Urtasun, “Lost Shopping! Monocular Localization in Large Indoor Spaces”, *International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015. (Oral)
80. Gellért Mátyus, **Shenlong Wang**, Sanja Fidler, Raquel Urtasun, “Enhancing World Maps by Parsing Aerial Images”, *International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015.
81. **Shenlong Wang**, Sanja Fidler, Raquel Urtasun, “Holistic 3D Scene Understanding from Single Geo-tagged Image”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, Boston, MA, 2015. (Oral)
82. **Shenlong Wang**, Alex Schwing, Raquel Urtasun, “Efficient Inference for Continuous Markov Random Fields with Polynomial Potentials”, *Neural Information Processing Systems (NeurIPS)*, Montreal, Canada, 2014.
83. **Shenlong Wang**, Lei Zhang, Raquel Urtasun, “Transductive Gaussian Process for Image Denoising”, *International Conference on Computational Photography (ICCP)*, Santa Clara, CA, 2014. (Oral)
84. **Shenlong Wang**, Lei Zhang, “Nonlocal Spectral Prior Model for Low-level Vision”, *Asian Conference on Computer Vision (ACCV)*, Daejeon, Korea, 2012.
85. **Shenlong Wang**, Lei Zhang, Yan Liang, Quan Pan, “Semi-Coupled Dictionary Learning with Applications in Image Super-Resolution and Photo-Sketch Image Synthesis”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, Providence, RI, 2012.
86. Meng Yang, Lei Zhang, David Zhang, **Shenlong Wang**, “Relaxed Collaborative Representation for Pattern Classification”, *International Conference on Computer Vision and Pattern Recognition (CVPR)*, Providence, RI, 2012.

Honors and Awards

- Awards and Prizes

- ISMAR Best Paper

- Dean's Award for Excellence in Research 2025
- NSF CAREER Award 2024
- Teacher Ranked as Excellent 2024
- Amazon Faculty Research Award 2022
- CVPR Best Paper Candidate 2021
- IROS Best Application Paper Finalist 2020
- NeurIPS Top Reviewer 2020
- Top Patent Filings All-Time Leaderboard, Rank 2nd (company-wide), Uber 2019
- Best Master's Thesis Award, NPU 2013
- Provincial Excellent Graduate 2010
- Meritorious Winner of Mathematical Contest of Modeling 2009

• **Fellowships and Scholarships**

- Facebook Fellowship (13 worldwide) 2017
- Adobe Fellowship (10 worldwide) 2017
- RBC Innovation Scholarship 2017
- Platform Computing Fellowship 2016
- First-Class Graduate Scholarship, NPU 2011
- National Scholarship 2009
- Special-Class Undergraduate Scholarship , NPU 2009
- First-Class Scholarship, NPU 2007, 2008

• **Travel and Hardware Grants**

- NVidia Accelerated Hardware Grant 2021
- CVPR Doctoral Consortium Grant 2019
- NIPS Travel Grant 2014, 2016
- NVidia Research Hardware Grant 2014
- UofT SGS Conference Grant 2014

Service

• **Area Chair / Senior PC / Associate Editor**

- European Conference on Computer Vision (ECCV) 2024
- International Conference on Computer Vision (ICCV) 2023, 2025
- Computer Vision and Pattern Recognition (CVPR) 2021, 2022, 2023, 2024, 2025
- Conference on Neural Information Processing Systems (NeurIPS) 2023
- Conference on 3D Computer Vision (3DV) 2025
- International Conference on Robotics and Automation (ICRA) 2024
- International Conference on Intelligent Robots and Systems (IROS) 2023, 2024
- AAAI Conference on Artificial Intelligence (AAAI) 2021, 2023
- Winter Conference in Computer Vision (WACV) 2023

• **Workshop Organizer**

- CVPR Workshop on Foundation Models for Embodied Agents CVPR 2025

- CVPR Workshop on Vision Meet Physics CVPR 2025
- ECCV Workshop on 3D Vision in the Wild ECCV 2024
- CVPR Workshop on End-to-End Autonomous Driving CVPR 2023
- CVPR Tutorial on Deep Learning for Compression CVPR 2021
- CVPR Tutorial on Autonomous Driving CVPR 2021

• **Conference Reviewing**

- ACM SIGGRAPH (Siggraph) 2024-present
- ACM SIGGRAPH Asia (Siggraph Asia) 2024-present
- Robotics: Science and Systems (RSS) 2022-present
- Neural Information Processing System (NeurIPS) 2016-2022
- International Conference on Computer Vision (ICCV) 2015-2021
- Computer Vision and Pattern Recognition (CVPR) 2015-2020
- International Conference on Machine Learning (ICML) 2016-2022
- European Conference on Computer Vision (ECCV) 2016-2022
- International Conference on Learning Representations (ICLR) 2016-2022
- International Conference on Robotics and Automation (ICRA) 2017-2022
- International Conference on Intelligent Robots and Systems (IROS) 2017-2022
- Uncertainty and Artificial Intelligence (UAI) 2015-2017
- Asian Conference on Computer Vision (ACCV) 2014

• **Grant Reviewing**

- National Science Foundation Foundational Research in Robotics (NSF-FRR) 2023
- National Science Foundation Foundational Robust Intelligence (NSF-RI) 2024
- European Research Council (ERC) 2024
- Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant 2025

• **Journal Reviewing**

- IEEE Trans. on Pattern Recognition and Machine Intelligence (PAMI) 2016-present
- IEEE Trans. on Robotics (TRO) 2023-present
- International Journal of Computer Vision (IJCV) 2014-present
- IEEE Trans. on Image Processing (TIP) 2013-2015
- IEEE Trans. on Geoscience and Remote Sensing (TGRS) 2017
- Computer Vision and Image Understanding (CVIU) 2015
- Pattern Recognition (PR) 2015
- Image and Vision Computing (IVC) 2013
- IEEE Trans. on Circuits and Systems for Video Technology (TCSVT) 2014

• **Outreach Program**

- Mentor, Women in Computer Vision Workshop 2018
- Mentor, University of Toronto Undergraduate AI Group 2016

• **textbfAward Committee**

- Member, 3DV Dissertation Award 2025

Teaching Experience

- **Course Instructor** Aug 2021 - Present
University of Illinois Urbana-Champaign *Urbana*
 - 3D Vision (CS598): Fall 2024 (Enrollment: 38)
 - Machine Learning (CS446): Fall 2022, Fall 2023, Spring 2024 (Enrollment: 120, 145, 144)
 - Introduction to Machine Perception (CS498): Spring 2022, Spring 2023 (Enrollment: 81, 57)
 - Advanced Topics on Robot Perception (CS598): Fall 2021 (Enrollment: 20)
- **Teaching Assistant** Jan 2014 - Present
University of Toronto *Toronto*
 - Introduction to Image Understanding (CSC420): Spring 2017
 - Inference Algorithms and Machine Learning (ECE521): Spring 2017
 - Machine Learning and Data Mining (CSC 411): Fall 2016, Spring 2016, Fall 2014
 - Introduction to Machine Learning (CSC 2515): Fall 2015, Spring 2015
 - Advanced Machine Learning (STA D68): Fall 2015
 - Introduction to Visual Computing (CSC 320): Spring 2014

Talks

- **Invited Talks:**
 - Towards a Cropland World Simulator from and for the Real World AIFARMS, 2025
 - Building Interactive World Simulators from Videos, IROS RobotGen Workshop, 2025
 - Towards Generalist Robots in Human-Centric Environment, XPeng America, 2025
 - Physical Inductive Biases for Interactive Images, CVPR Workshop on Inductive Biases in Vision, 2025
 - Point Cloud Simulation & Generation for Autonomous Driving, CVPR Workshop on Point Cloud, 2025
 - Interactive Images and Videos Stanford University, 2025
 - Spatial and Generative AI for Immersive Experiences IMMERSE Symposium, 2025
 - Interactive Images and Videos University of Pennsylvania, 2025
 - Interactive Images and Videos 3DV AC Workshop, 2025
 - Interactive Images and Videos National University of Singapore, 2025
 - Digitizing and Simulating the 3D Physical World for Autonomy AVIATE Seminar, 2024
 - Interactive Images and Videos Midwest Vision Workshop, 2024
 - Visual Recreative Minds University of Michigan, 2024
 - Visual Recreative Minds ECCV Workshop on CV4Metaverse, 2024
 - Toward Digitalizing and Simulating the Physical World Tsinghua University, 2024
 - Toward Digitalizing and Simulating the Physical World Peking University, 2024
 - Toward Digitalizing and Simulating the Physical World Nanjing University, 2024
 - Toward Digitalizing and Simulating the Physical World Hong Kong University, 2024
 - Toward Digitalizing and Simulating the Physical World Chinese University of Hong Kong, 2024
 - Toward Digitalizing and Simulating the Physical World Nvidia, 2024
 - Toward Digitalizing and Simulating the Physical World Waabi, 2024
 - Integrating Spatial Perception into Conversational AI for Real-World Tasks AICE Symposium 2024
 - Visual Recreation with Data and Physics GAMES, 2024
 - Learning to Simulate from Reality and for Reality UIUC, 2024

- Visual Imagination in the 3D Physical World University of Maryland, 2023
- Visual Imagination in the 3D Physical World CVPR Workshop on 3D Scene Understanding, 2023
- Visual Imagination in the 3D Physical World China 3DV, 2023
- Bridging Data and Physics for Visual Content Creation in the 3D World c3.ai Workshop, 2023
- Safely Evaluate Autonomous Vehicles with Mixed Reality CVPR Workshop, 2023
- Safely Evaluate Autonomous Vehicles with Mixed Reality Amazon, 2023
- Modeling, Simulating and Generation Urban Digital Twins Midwest ML Workshop, 2023
- Towards Modelling and Generating Digital Twins Nvidia, 2022
- Extreme 3D Modeling and Simulation Autodesk, 2022
- Safely Train and Test Autonomous Vehicles with Augmented Reality Kent Seminars, 2021
- Neural Compression for Geometric Data ACM MM Workshop on Visual Compression, 2021
- Robust Autonomy and Realistic Simulation for Self-Driving UIUC, 2021
- Towards Realistic Simulation for Self-Driving CVPR Workshop on Autonomous Driving, 2021
- Learning to Compress 3D Data CVPR Workshop on Visual Compression, 2021
- Learning to Compress 3D Data ACM MM, 2021
- Learning 3D Representations for Self-Driving UofT, 2020
- Learning 3D Representations for Self-Driving NVIDIA, 2020
- Learning 3D Representations for Self-Driving UIUC, 2020
- Learning to Drive with Human Knowledge UIUC, 2020
- Learning to Drive with Human Knowledge CMU, 2020
- Learning to Drive with Human Knowledge Cornell, 2020
- Learning to Drive with Human Knowledge GaTech, 2020
- Learning to Drive with Human Knowledge UMD, 2020
- Learning to Drive with Human Knowledge UMass, 2020
- Learning to Drive with Human Knowledge UNC, 2020
- Learning to Drive with Human Knowledge UMN, 2020
- Learning to Drive with Human Knowledge Waterloo, 2020
- Learning to Drive with Human Knowledge SFU, 2020
- Towards More Robust and Data-Efficient Robotics in the Wild NVIDIA, 2019
- Towards More Robust and Data-Efficient Robotics in the Wild Intel, 2019
- Deep Geometric Scene Understanding for Self-Driving Cars CREATE Summer School, 2019
- TorontoCity: Seeing the World with Millions of Eyes Endless Summer School, 2017
- 3D Scene Understanding with Knowledge about the World VALSE Webinar / YorkU, 2016

• **Conference Talks:**

- Deep Parameteric Continuous Convolution Networks CVPR Spotlight, 2018
- TorontoCity ICCV Spotlight, 2017
- The Global Patch Collider CVPR Oral, 2016
- Lost Shopping! Monocular Localization in Large Indoor Spaces ICCV Oral, 2015
- Holistic 3D Scene Understanding from a Single Monocular Image CVPR Oral, 2015

• **Seminar Talks:**

- The Global Patch Collider University of Toronto, 2016

Grants

- **Total:** \$7,688,940, **Illinois Portion:** \$6,648,940, **My Lab's Total Portion:** \$3,349,762
1. **NSF Formal Methods in the Field (FMitF)**, “Visual Computing Meets Formal Verification: Certified Rendering, Geometry, and Video Generation”, **co-PI**, \$904,686, 2024-2027 (PI: Huan Zhang, Sayan Mitra; my lab's portion: \$300,000).
 2. **Airbrush**, “Dynamic Video Effects with Generative Models”, **PI**, \$40,000, 2025.
 3. **Meta**, “XR graphics for the generative AI era: A hardware-runtime-algorithm codesigned approach”, **Co-PI**, \$855,515, 2024-2028 (lead PI: Sarita Adve; my lab's portion: \$427,757).
 4. **Intel**, “Harnessing Generative AI for Realistic, Interactive, and Physics-Grounded Virtual Environments”, **Sole-PI**, \$120,000, 2023-2024
 5. **NSF Foundational Research in Robotics (FRR)**, “Introspective Counterfactual Reasoning for Robust and Resilient Autonomy”, **PI**, \$900,000, 2024-2027 (co-PI: Hao Zhang, Chuang Gan; my lab's portion: \$300,000).
 6. **NSF Cyber-Physical Systems (CPS)**, “MEDIUM: Radar-based Perception and Control for Small Autonomous Robots”, **Co-PI**, \$1,200,000, 2024-2027 (lead PI: Deepak Vasishth, co-PI: Elahe Soltanaghahi; my lab's portion: \$400,000).
 7. **NSF Robust Intelligence (RI)**, “CAREER: Digitize and Simulate the Large Physical World via Knowledge-Grounded Scene Representation”, **Sole-PI**, \$600,000, 2024-2029 (my lab's portion: \$600,000)
 8. **NSF Safety-Enabled Learning Systems (SLES)**, “SLES: Guaranteed Tubes for Safe Learning across Autonomy Architecture”, **Co-PI**, \$999,006, 2024-2027 (lead PI: Naira Hovakimyan, co-PI: Xiaofeng Wang; my lab's portion: \$490,000)
 9. **Amazon-Illinois AICE Center**, “Integrating Spatial Perception into Conversational AI for Real-World Task Assistance”, **PI**, \$80,000, 2023
 10. **NSF Robust Intelligence (RI)**, “RI: Small: Semantic 3D Neural Rendering Field Models that are Accurate Complete, Flexible, and Scalable”, **Co-PI**, \$600,000, 2023-2026 (lead PI: Derek Hoiem; my lab's portion: \$300,000)
 11. **IBM Illinois Discovery Accelerator Grant**, “Codesigned Distributed Inference Architectures for Immersive Computing”, **Co-PI**, \$660,000, 2023 (lead PI: Sarita Adve, co-PI: Brighten Godfrey; my lab's portion: \$267,005)
 12. **Jump ARCHES Grant**, “FlightPath and NeuroDNA: Creating a New Interoperability Standard for the Evaluation of Neurocognitive Impairment”, **Co-PI**, \$199,419, 2023 (lead PI: Inki Kim; my lab's portion: \$25,000)
 13. **NCSA Fellowship**, “Novel Interface Design with Mixed Reality (MR) to Support Collaborative Visual Diagnosis of Concussion by Clinicians and Artificial Intelligence (AI)”, **Co-PI**, \$25,000, 2023 (lead PI: Inki Kim)
 14. **Insper-UIUC**, “Novel Object and Illumination Modeling Strategies for Extreme Simulation”, **PI**, \$110,000, 2022 (co-PI: David Forsyth, Yuxiong Wang)
 15. **Amazon**, “Learning to Drive through Data-Driven Simulation”, **Sole-PI**, \$80,000, 2022
 16. **UIUC Smart Transportation Infrastructure**, “Safely Test Autonomous Vehicles with Augmented Reality”, **Sole-PI**, \$50,000, 2021

Granted Patents

1. US-11221413-B2, *Three-dimensional object detection*, Ming Liang, Bin Yang, **Shenlong Wang**, Wei-Chiu Ma, Raquel Urtasun (Granted: 2022)

2. US-10859384-B2, *Lightweight vehicle localization systems and methods*, Wei-Chiu Ma, **Shenlong Wang**, Namdar Homayounfar, Shrinidhi Kowshika Lakshmikanth, Raquel Urtasun (Granted: 2020)
3. US-11080537-B2, *Autonomous vehicle lane boundary detection systems and methods*, Min Bai, Gellert Sandor Mattyus, Namdar Homayounfar, **Shenlong Wang**, Shrinidhi Kowshika Lakshmikanth, Raquel Urtasun (Granted: 2021)
4. US-10552968-B1, *Dense feature scale detection for image matching*, **Shenlong Wang**, Linjie Luo, Ning Zhang, Jia Li (Granted: 2020)
5. US-11276190-B2, *Active image depth prediction*, Snap Inc., Kun Duan, Daniel Ron, Chongyang Ma, Ning Xu, **Shenlong Wang**, Sumant Milind Hanumante, Dhritiman Sagar (Granted: 2022)
6. US-10803325-B2, *Autonomous vehicle lane boundary detection systems and methods*, Min Bai, Gellert Sandor Mattyus, Namdar Homayounfar, **Shenlong Wang**, Shrinidhi Kowshika Lakshmikanth, Raquel Urtasun, Wei-Chiu Ma (Granted: 2020)
7. US-11354820-B2, *Image based localization system*, Raquel Urtasun, Julieta Martinez Covarrubias, **Shenlong Wang**, Hongbo Fan (Granted: 2022)
8. US-11245927-B2, *Compression of images having overlapping fields of view using machine-learned models*, Jerry Junkai Liu, **Shenlong Wang**, Raquel Urtasun (Granted: 2022)
9. US-9886652-B2, *Computerized correspondence estimation using distinctively matched patches*, Sean Ryan Francesco Fanello, Shahram Izadi, Pushmeet Kohli, Christoph Rhemann, **Shenlong Wang** (Granted: 2018)
10. US-11375194-B2, *Conditional entropy coding for efficient video compression*, Jerry Junkai Liu, **Shenlong Wang**, Wei-Chiu Ma, Raquel Urtasun (Granted: 2022)
11. US-11217012-B2, *System and method for identifying travel way features for autonomous vehicle motion control*, Raquel Urtasun, Min Bai, **Shenlong Wang** (Granted: 2022)

Filed Patents

1. US-2020025931-A1, *Three-Dimensional Object Detection*, Ming Liang, Bin Yang, **Shenlong Wang**, Wei-Chiu Ma, Raquel Urtasun (Filed: 2019)
2. US-2019147335-A1, *Continuous Convolution and Fusion in Neural Networks*, Shenlong Wang, Wei-Chiu Ma, Shun Da Suo, Raquel Urtasun, Ming Liang (Filed: 2019)
3. US-2021326607-A1, *Autonomous Vehicle Lane Boundary Detection Systems and Methods*, Min Bai, Gellert Sandor Mattyus, Namdar Homayounfar, **Shenlong Wang**, Shrinidhi Kowshika Lakshmikanth, Raquel Urtasun (Filed: 2020)
4. US-2019145784-A1, *Lightweight Vehicle Localization Systems and Methods*, Wei-Chiu Ma, **Shenlong Wang**, Namdar Homayounfar, Shrinidhi Kowshika Lakshmikanth, Raquel Urtasun (Filed: 2019)
5. US-2020160598-A1, *Systems and Methods for Generating Synthetic Light Detection and Ranging Data via Machine Learning*, Sivabalan Manivasagam, **Shenlong Wang**, Wei-Chiu Ma, Raquel Urtasun (Filed: 2020)
6. US-2020160537-A1, *Deep Structured Scene Flow for Autonomous Devices*, Raquel Urtasun, Wei-Chiu Ma, **Shenlong Wang**, Yuwen Xiong, Rui Hu (Filed: 2020)
7. US-2020074653-A1, *Active image depth prediction*, Kun Duan, Daniel Ron, Chongyang Ma, Ning Xu, **Shenlong Wang**, Sumant Milind Hanumante, Dhritiman Sagar (Filed: 2020)
8. US-2019147253-A1, *Autonomous Vehicle Lane Boundary Detection Systems and Methods*, Min Bai, Gellert Sandor Mattyus, Namdar Homayounfar, **Shenlong Wang**, Shrinidhi Kowshika Lakshmikanth, Raquel Urtasun, Wei-Chiu Ma (Filed: 2019)

9. US-2019383945-A1, *Autonomous vehicle localization using a lidar intensity map*, Shenlong Wang, Andrei Pokrovsky, Raquel Urtasun Sotil, Ioan Andrei BĂċrsan (Filed: 2019)
10. US-2020301799-A1, *Systems and Methods for Generating Synthetic Sensor Data via Machine Learning*, Sivabalan Manivasagam, **Shenlong Wang**, Wei-Chiu Ma, Kelvin Ka Wing Wong, Wenyuan Zeng, Raquel Urtasun (Filed: 2020)
11. US-2021149404-A1, *Systems and Methods for Jointly Performing Perception, Perception, and Motion Planning for an Autonomous System*, Wenyuan Zeng, **Shenlong Wang**, Renjie Liao, Yun Chen, Bin Yang, Raquel Urtasun (Filed: 2021)
12. WO-2019099622-A1, *Autonomous vehicle lane boundary detection systems and methods*, Min Bai, Gellert Sandor Mattyus, Namdar Homayounfar, **Shenlong Wang**, Shrinidhi Kowshika Lakshmikanth, Raquel Urtasun, Wei-Chiu Ma (Filed: 2019)
13. US-2022165043-A1, *Photorealistic Image Simulation with Geometry-Aware Composition*, Frieda Rong, Yun Chen, Shivam Duggal, **Shenlong Wang**, Xinchun Yan, Sivabalan Manivasagam, Ersin Yumer, Raquel Urtasun (Filed: 2022)
14. WO-2020198140-A1, *Compression of images having overlapping fields of view using machine-learned models*, Jerry Junkai Liu, **Shenlong Wang**, Raquel Urtasun (Filed: 2019)
15. US-2020160558-A1, *Image Based Localization System*, Raquel Urtasun, Julieta Martinez Covarrubias, **Shenlong Wang**, Hongbo Fan (Filed: 2020)
16. US-2021012116-A1, *Systems and Methods for Identifying Unknown Instances*, Raquel Urtasun, Kelvin Ka Wing Wong, **Shenlong Wang**, Mengye Ren, Ming Liang (Filed: 2021)
17. US-2017270390-A1, *Computerized correspondence estimation using distinctively matched patches*, Sean Ryan Francesco Fanello, Shahram Izadi, Pushmeet Kohli, Christoph Rhemann, **Shenlong Wang** (Filed: 2017)
18. US-2021146949-A1, *Localization with Diverse Dataset for Autonomous Vehicles*, Julieta Martinez Covarrubias, Raquel Urtasun, **Shenlong Wang**, Ioan Andrei Barsan, Gellert Sandor Mattyus, Sasha Doubov, Hongbo Fan (Filed: 2021)
19. US-2020160117-A1, *Attention Based Feature Compression and Localization for Autonomous Devices*, Raquel Urtasun, Xinkai Wei, Ioan Andrei Barsan, Julieta Covarrubias Martinez, **Shenlong Wang** (Filed: 2020)
20. CA-3158597-A1, *Conditional entropy coding for efficient video compression*, Jerry Junkai Liu, **Shenlong Wang**, Wei-Chiu Ma, Raquel Urtasun (Filed: 2021)
21. CA-3139477-A1, *Systems and methods for simulating traffic scenes*, Shuhan Tan, Kelvin Ka Wing Wong, **Shenlong Wang**, Sivabalan Manivasagam, Mengye Ren, Raquel Urtasun (Filed: 2021)
22. US-2022137636-A1, *Systems and Methods for Simultaneous Localization and Mapping Using Asynchronous Multi-View Cameras*, Anqi Joyce Yang, Can CUI, Ioan Andrei BĂċrsan, **Shenlong Wang**, Raquel Urtasun (Filed: 2022)
23. US-2022101600-A1, *System and Method for Identifying Travel Way Features for Autonomous Vehicle Motion Control*, Raquel Urtasun, Min Bai, **Shenlong Wang** (Filed: 2022)
24. US-2020160151-A1, *Feature Compression and Localization for Autonomous Devices*, Raquel Urtasun, Xinkai Wei, Ioan Andrei Barsan, Julieta Covarrubias Martinez, **Shenlong Wang** (Filed: 2020)

Mentorship

- **Current Students:**

- Shaowei Liu (2021-present, PhD at UIUC, co-advised with Saurabh Gupta)

- Yuan Shen (2021-present, PhD at UIUC)
- Vlas Zyrianov (2021-present, PhD at UIUC, Frontier Fellowship, NSF GRFP Fellowship Finalist)
- Zhi-Hao Lin (2022-present, PhD at UIUC, Qualcomm Innovation Fellowship Finalist, Mavis Future Faculty Fellow)
- Jing Wen (2022-present, PhD at UIUC, co-advised with Alex Schwing)
- Albert Zhai (2022-present, PhD at UIUC, Yunni and Maxine Pao Memorial Fellowship, Qualcomm Innovation Fellowship Finalist)
- Hanxiao Jiang (2023-present, PhD at Columbia, co-advised with Yunzhu Li)
- Hongchi Xia (2024-present, PhD at UIUC)
- Tianhang Cheng (2024-present, PhD at UIUC)
- Bhargav Chandaka (2023-present, MS at UIUC → Waabi)
- Max Hsu (2023-present, MS at UIUC, Siebel Scholar Award)
- David Yao (2023-present, MS at UIUC → Tesla)
- Haozhe Chen (2024-present, MS at UIUC)

• **Current and Past Student Interns since joining UIUC:**

- Sydney Yu (2024-present, BS at UIUC)
- Gloria Wang (2023-present, BS at UIUC)
- Xiaoxue Chen (2024-present, PhD at Tsinghua)
- Boyuan Chen (2024-present, BS at Tsinghua)
- Henry Che (2023-present, BS at UIUC, NSF Graduate Research Fellowship)
- Runzhao Huang (2024, CS-STARS, BS at UIUC)
- Naina Singh (2024, CS-STARS, BS at UIUC)
- Anna Shukhter (2024, CS-STARS, BS at UIUC)
- Ansh Sharma (2024, BS at UIUC → ML Resercher at Genesis Therapeutics)
- Albert Xiao (2024, BS at UIUC → MS at CMU)
- Praneet Rathi (2024, BS at UIUC, CRA Outstanding Research Award Honorable Mention)
- Rohit Kundu (2024, BS at UIUC → SDE at Genesis Therapeutics)
- Michael Meng (2024, High School Senior at Illinois Mathematics and Science Academy)
- Hongchi Xia (2023-2024, BS at SJTU→PhD at UIUC)
- Tianhang Cheng (2022-2023, BS at ZJU→MS at UIUC→PhD at UIUC)
- Emily Chen (2022-2023, BS at UIUC→MS at UCSD)
- Xiyue Zhu (2022-2023, BS/MS at UIUC→PhD at UIUC)
- Yuan Li (2022, BS at ZJU→PhD at ZJU)
- Zeyuan Chen (2021-2022, BS at USTC→PhD at UCSD)
- Zhi-Hao Lin (2021-2022, MS at NTU→PhD at UIUC)
- Yuefan Wu (2020-2022, BS at UTSC→PhD at SFU)

• **Past Interns/Residents before joining UIUC:**

- Sivabalan Manivasagam (2018-2020, BS at Georgia Tech→PhD at UofT)
- Andrei Barsan (2017-2021, MS at UofT→PhD at UofT)
- Kelvin Wong (2018-2020, BS at Waterloo→PhD at UofT)
- Joyce Yang (2019-2021, BS at Waterloo→ PhD at UofT)

- Annie Zhang (2018-2020, BS at Waterloo→ Master at UofT)
- Yun Chen (2020-2021, BS at Waterloo→ PhD at UofT)
- Simon Suo (2017, BS at Waterloo→ PhD at UofT → CTO at LlamaIndex)
- Frieda Rong (2018, BS at Waterloo→ PhD at Stanford)
- Xinkai Wei (2018, BS at Waterloo→ Master at UofT)
- Jerry Liu (2019, BS at Waterloo→ CEO at LlamaIndex)
- Shivam Duggal (2019, Intern at Uber ATG→ Master at CMU)
- Shuhan Tan (2019, BS at Waterloo→ PhD at UT Austin)
- Tom Meredith (2019, BS at Waterloo→ Engineer at Trexo Robotics)
- Can Cui (2019, BS at Waterloo→ Engineer at Cruise)
- Zeng Huang (2020, PhD at USC→ Research Scientist at Snap)
- Shangjie Xue (2020, BS at MIT→PhD at Georgia Tech)
- Mengfei Liu (2020, BS at Waterloo→PhD at UofT)
- Lila Huang (2020, BS at Waterloo→Engineer at Jane Street)
- Sourav Biswas (2020, BS at Waterloo→PhD at UofT)

Media Coverage

- **Virtual Correspondence:**

- MIT News: “Seeing the whole from some of the parts”, 2022
- TechXplore: “Computer vision technique to enhance 3D understanding of 2D images”, 2022

- **Continuous Convolution:**

- Phys Org: “Researchers make advances with new automated driving algorithm”, 2018
- UToronto News: “Autonomous vehicles: U of T researchers make advances with new algorithm”, 2018

- **Holoportation:**

- ZDNet: “How Microsoft’s HoloLens could change communication via ‘Holoportation’”, 2016
- TechRader: “Microsoft introduces the world to ‘holoportation’”, 2016
- VentureBeat: “It’s 2026 and Anyone in This Room Could Be a Hologram”, 2016
- The Verge: “Microsoft has created Star Wars-style holographic communication”, 2016
- Engadget: “‘Holoportation’ demo makes live-video holograms look easy”, 2016
- PC Magazine: “Microsoft Demos Star Wars-Style ‘Holoportation’”, 2016
- Mirror UK: “Microsoft creates real Star Wars holograph so people can be in two places at once”, 2016
- PC World: “Microsoft wants to ‘holoport’ you into a conversation elsewhere”, 2016
- Digital Trend: “Microsoft ‘holoportation’ lets you share a room with a faraway friend”, 2016
- CNET: “Holoportation brings Star Wars-style holograms to life”, 2016