ZIYUN (CLAUDE) WANG

GRASP Laboratory, University of Pennsylvania
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EDUCATION

GRASP Lab, University of Pennsylvania, Philadelphia, PA   *2020 - Present*
Ph.D. Student, Computer Science
Advisor: Kostas Daniilidis

GRASP Lab, University of Pennsylvania, Philadelphia, PA   *2017 - 2019*
M.S.E, Robotics
Advisor: Kostas Daniilidis

Rice University, Houston, TX   *2013 - 2017*
B.S., Computer Science

PROFESSIONAL EXPERIENCE

Apple   2024
Vision Product Team, Algorithms Intern

· Developed Algorithms for improving user viewer experience on the Vision Pro.

Samsung AI Center New York   2019-2020
Research Intern, Advisors: Volkan Isler, Daniel D. Lee, Sebastian Seung

· Developed algorithms for single-view 3D surface reconstruction using hyper networks using geometric priors, including surface normal and geodesic distance.
· Developed algorithms to learn a cost-to-go function for efficient motion planning.

PUBLICATIONS

1. Royina Karegoudra Jayanth*, Yinshuang Xu*, **Ziyun Wang**, Evangelos Chatzipantazis, Kostas Daniilidis, Daniel Gehrig "EqNIO: Subequivariant Neural Inertial Odometry" *International Conference on Learning Representations (ICLR)* **2025**

2. **Ziyun Wang**, Jinyuan Guo, Kostas Daniilidis. "Un-EVIMO: Unsupervised Event-based Independent Motion Segmentation." *European Conference on Computer Vision (ECCV)* (**Acceptance rate: 24.9%**) **2024**

3. Friedhelm Hamann, **Ziyun Wang**, Ioannis Asmanis, Kenneth Chaney, Guillermo Gallego, Kostas Daniilidis. "Motion-prior Contrast Maximization for Dense Continuous-Time Motion Estimation" *European Conference on Computer Vision (ECCV)* (**Acceptance rate: 24.9%**) **2024**

4. Yufu Wang, **Ziyun Wang**, Lingjie Liu, Kostas Daniilidis. "TRAM: Global Trajectory and Motion of 3D Humans from in-the-wild Videos." *European Conference on Computer Vision (ECCV)* (**Acceptance rate: 24.9%**) **2024**

5. Yunzhou Song, Jiahui Lei, **Ziyun Wang**, Lingjie Liu, Kostas Daniilidis. "Track Everything Everywhere Fast and Robustly" *European Conference on Computer Vision (ECCV)* (**Acceptance rate: 24.9%**) **2024**

6. Kenneth Channey*, Fernando Cladera*, **Ziyun Wang**, Anthony Bisulco, M Ani Hsieh, Christopher Korpela, Vijay Kumar, Camillo J Taylor, Kostas Daniilidis. "M3ED: Multi-Robot, Multi-Sensor, Multi-Environment Event Dataset." *Event-based Vision Workshop, CVPR* **2023**

7. **Ziyun Wang***, Kenneth Chaney*, Kostas Daniilidis. "EvAC3D: From Event-Based Apparent Contours to 3D Models via Continuous Visual Hulls." *European Conference on Computer Vision (ECCV)* (**Oral Presentation, 2.7% of submissions**) **2022**

8. **Ziyun Wang***, Fernando Cladera*, Anthony Bisulco, Daewon Lee, Camillo J Taylor, Kostas Daniilidis, M Ani Hsieh, Daniel D Lee, Volkan Isler. "EV-Catcher: High-Speed Object Catching Using Low-Latency Event-Based Neural Networks." *IEEE Robotics and Automation Letters (RA-L)* **2022**

9. Alex Zhu, **Ziyun Wang**, Kaung Khant, Kostas Daniilidis. "Eventgan: Leveraging large scale image datasets for event cameras." *IEEE International Conference on Computational Photography (ICCP)* **2021**

10. Jinwook Huh, Galen Xing, **Ziyun Wang**, Volkan Isler, Daniel D. Lee. "Learning to generate cost-to-go functions for efficient motion planning." *Experimental Robotics: The 17th International Symposium* **2021**

11. **Ziyun Wang**, Eric Mitchell, Volkan Isler, Daniel D. Lee. "Geodesic-HOF: 3D Reconstruction Without Cutting Corners." *AAAI Conference on Artificial Intelligence* (**Acceptance rate: 21.4%**) **2021**

12. **Ziyun Wang**, Volkan Isler, Daniel D. Lee. "Surface HOF: Surface Reconstruction from a Single Image Using Higher Order Function Networks." *IEEE International Conference on Image Processing (ICIP)* **2020**

13. **Ziyun Wang** "Motion Equivariant Networks for Event Cameras with the Temporal Normalization Transform." Master's Thesis. **2019**

14. Alex Zhu, Wenxin Liu, **Ziyun Wang**, Vijay Kumar, Kostas Daniilidis. "Robustness Meets Deep Learning: An End-to-End Hybrid Pipeline for Unsupervised Learning of Egomotion." *Workshop on Deep Learning for Semantic Visual Navigation, CVPR 2019* **2019**

PREPRINTS

1. **Ziyun Wang**, Ruijun Zhang, Zi-Yan Liu, Yufu Wang, Kostas Daniilidis. "Continuous-Time Human Motion Field from Events". Preprint. **2024**

2. **Ziyun Wang**, Friedhelm Hamann, Kenneth Chaney, Wan Jiang, Guillermo Gallego, Kostas Daniilidis. "Event-based Continuous Color Video Decompression from Single Frames." Preprint. **2023**

PATENTS

1. **Ziyun Wang**, Eric Anthony Mitchell, Ibrahim Volkan Isler, and Daniel Dongyuel Lee. "Method and apparatus for three-dimensional (3D) object and surface reconstruction." U.S. Patent 11,380,061, issued July 5, 2022.

2. **Ziyun Wang**, Fernando Cladera Ojeda, Anthony Robert Bisulco, Dae Won Lee, Camillo J. Taylor, Konstantinos Daniilidis, Ani Hsieh, and Ibrahim Volkan Isler. "Systems and methods for real-time state estimation of fast-moving objects." U.S. Patent Application 17/978,873, filed May 4, 2023.

3. Jinwook Huh, Galen Kailun Xing, **Ziyun Wang**, Ibrahim Volkan Isler, and Daniel Dongyuel Lee. "Trajectory generation of a robot using a neural network." U.S. Patent 11,642,787, issued May 9, 2023.

TEACHING ASSISTANT

MEAM 620 Advanced Robotics (Spring 2018, Spring 2022)
CIS 580 Machine Perception (Spring 2022)

REVIEWING

Outstanding Reviewers (ECCV 2024)	2024
European Conference on Computer Vision (ECCV)	2024
Transactions on Pattern Analysis and Machine Intelligence (TPAMI)	2024
Conference on Computer Vision and Pattern Recognition (CVPR)	2023
International Conference on Computer Vision (ICCV)	2023
IEEE Robotics and Automation Letters (RA-L)	2022, 2023
International Conference on Robotics and Automation (ICRA)	2021, 2022, 2023
International Conference on Intelligent Robots and Systems (IROS)	2022
Transactions on Pattern Analysis and Machine Intelligence (TPAMI)	2023