Haoming Li

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Education

University of Pennsylvania, Philadelphia, PA — May 2024
Master of Science, Electrical Engineering — *GPA: 3.71/4.00*
Advisor: Dr. Nadia Figueroa
Thesis: Towards Generalizable Robust Safe Robotic Systems via Lipschitz Regularization

China University of Geosciences, Beijing — June 2021
Bachelor of Engineering, Electrical and Information Engineering — *GPA: 89.74/100*

Publication

Y. Liu, H. Li, M. Huang, D. Chen, and B. Zhao, "Ice Crevasse Detection with Ground Penetrating Radar using Faster R-CNN," 2020 15th IEEE International Conference on Signal Processing (ICSP), 2020, pp. 596-599. (Oral)

Research Experience

University of Pennsylvania, GRASP Lab
Research Assistant (Advisor: Dr. Kostas Daniilidis) — June. 2024 – Present
- Proposed a diffusion-based 3D shape completion method for robotic grasping.
- Applied our method to both the simulation and a Kinova Gen3 robot arm in the real world.

University of Pennsylvania, GRASP Lab
Research Assistant (Advisor: Dr. Nadia Figueroa) — May. 2023 – May. 2024
- Proposed a method that maps RGB-D streams to signed distance functions for real-time collision avoidance.
- Applied our method to both the simulation and a Fetch robot in the real world achieving real-time performance.

University of Pennsylvania, GRASP Lab
Research Assistant (Dr. George Pappas's Group) — Dec. 2022 – Feb. 2023
- Proposed a weight normalization and a Lipschitz regularization on generative models for better adversarial robustness, 3D shape interpolation and reconstruction.

Institute of Electronics, Chinese Academy of Sciences
Research Assistant (Advisor: Dr. Keming Chen) — Oct. 2020 – July. 2022
- Proposed a self-attention-based architecture to handle remote sensing image change detection (segmentation) tasks with an accuracy above 98%.

University of Chinese Academy of Sciences
Research Assistant (Advisor: Dr. Yan Liu) — Feb. 2019 – Sep. 2020
- Proposed an ice crevasse detection method based on Faster R-CNN achieving an accuracy above 95%. for robotic navigation.

Awards

Second Prize in the 1st Undergraduate Physics Academic Competition of Beijing.

First Prize in the 10th Innovation Creativity Entrepreneurship.

Third Prize in the 14th Undergraduate Physics Experiment Competition.

School of Information Engineering Award

Skills

Programming Languages: Python, C++, C, MATLAB, SQL

Libraries & Tools: ROS, CVXPY, PyTorch, Pandas, scikit-learn, LaTeX.