# Linyi Jin

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## Summary

My main research interest is Computer Vision and Robotics Perception, especially 3D vision and recognition.

## Education

**University of Michigan** — **Michigan, USA**
*M.S. in Robotics, advised by David Fouhey and Andrew Owens* — *2019–2021(expected)*

**University of Michigan** — **Michigan, USA**
*B.S.E. in Computer Science, Summa Cum Lauda* — *2017–2019*

**Shanghai Jiao Tong University** — **Shanghai, China**
*B.S.E. in Mechanical Engineering.* — *2015–2019*

## Publication

**Associative3D: Volumetric Reconstruction from Sparse Views**
*Shengyi Qian*, Linyi Jin*, David F. Fouhey*
European Conference on Computer Vision (ECCV) 2020.

- Invited presentation at ECCV 2020 Workshop Holistic Scene Structures for 3D Vision.
- Proposed a new approach that estimates reconstructions, distributions over the camera/object and camera/camera transformations, as well as an inter-view object affinity matrix.

**Inferring Occluded Geometry Improves Performance When Retrieving an Object from Dense Clutter**
*Andrew Price*, Linyi Jin*, Dmitry Berenson*
International Symposium on Robotics Research (ISRR), 2019

- Augmented a manipulation planner for cluttered environments with a state-of-the-art RGB-D segmentation and constructed a 3D reconstruction perception pipeline to reduce the amount of occluded space to explore.

## Work Experience

**YITU Technology** — **Shanghai, China**
*Research Intern in Computer Vision* — *2019.5-2019.8*

- Implemented novel algorithms for image classification systems. Increased final accuracy on large-scale datasets.

**University of Michigan** — **Ann Arbor, MI**
*Instructional Aide for EECS 442 Computer Vision* — *2019.1–2019.4*

- Re-designed all the assignments in Python and OpenCV. Held office hours, taught recitation classes every week.
- Course website: https://web.eecs.umich.edu/∼ fouhey/teaching/EECS442_W19/

## Research Experience

**Fouhey AI Lab, University of Michigan** — **Ann Arbor, MI**
*Graduate Student Research Assistant (GSRA), Advisor: Prof. David Fouhey.* — *2019.5–present*

- Working on developing novel algorithms to reconstruct 3D scenes from RGB images.

**Autonomous Robotic Manipulation Lab (ARM Lab), University of Michigan** — **Ann Arbor, MI**
*Independent researcher, Advisor: Prof. Dmitry Berenson, Sponsor: Toyota Research Institute.* — *2018.4–2019.4*

- Worked on the MPS project which is published to ISRR 2019.

**Michigan Vision & Learning Lab (UMich-vl), University of Michigan** — **Ann Arbor, MI**
*Undergraduate research assistant, Advisor: Prof. Jia Deng.* — *2018.5–2018.8*

- Worked on DARPA's Active Interpretation of Disparate Alternatives (AIDA) Challenge.

## Selected Projects

**Single-view Surface Normal Prediction** — **Ann Arbor, MI**
*EECS 442 Computer Vision, Prof. Jia Deng, University of Michigan* — *2018.3–2018.4*

- Developed a machine learning model using a Stacked Hourglass Network and proposed a novel loss function to predict the surface normal from a single image. Reached 0.356 MEA (mean angle error) accuracy and breaks the record from previous years.