

GIRISH CHANDAR G

East Lansing, Michigan

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OBJECTIVE

Motivated Ph.D. student interested in research internships in Monocular depth estimation, 3D reconstruction, 3D generation and novel-view synthesis. I have relevant academic knowledge and research experience in Diffusion models, NeRFs, and 3D Gaussian Splatting.

EDUCATION

Michigan State University, MI, USA <i>Ph.D. Computer Science, Advisor: Dr. Xiaoming Liu</i>	Jan 2024 – Present GPA : 4/4
University of Michigan, Ann Arbor, MI, USA <i>M.S. Electrical and Computer Engineering</i>	Aug 2021 – Apr 2023 GPA : 4/4
Indian Institute of Technology Gandhinagar, Gandhinagar, India <i>B.Tech. Electrical Engineering (minor Computer Science)</i>	July 2016 – Aug 2020 GPA : 8.98/10

COURSEWORK / SKILLS

- Foundations for Computer Vision (A)
- Matrix Methods for Machine Learning and Signal Processing(A+)
- 3D Computer Vision (A)
- Deep Learning for Computer Vision (A)
- PyTorch, Tensorflow, MXNet
- MATLAB, LabVIEW
- Numpy, OpenCV, Sklearn, Pandas
- C++

PUBLICATIONS


RePLAy: Remove Projective LiDAR Depthmap Artifacts via Exploiting Epipolar Geometry  ECCV 2024
Shengjie Zhu, Girish Chandar G*, Abhinav Kumar, Xiaoming Liu*


POSITION


Research Assistant | Dr. Xiaoming Liu, Michigan State University  June 2023 - Present
Graduate Student Research Assistant | Dr. Stella Yu, University of Michigan-Ann Arbor  Jan 2023 – Apr 2023
Research Intern | Dr. Yang Zheng, NVIDIA  May 2022 – August 2022

INTERNSHIPS


Stereo Hazard Detection | NVIDIA | PyTorch May 2022 - Aug 2022
• Implemented end-to-end deep learning model using custom UNet as the backbone for feature map extraction.
• Outperformed baseline by achieving **zero** false positives.

Auto Shape Detection in Machine Vision  | Zentron Labs | Python (Numpy, OpenCV) Oct 2020 – Aug 2021
• Implemented Arc Detection algorithm that gives accuracies of **100%** on simulated data and 80% on real data.
• Improved Line and Circle Detection accuracies from **65% to 90%**


Optimization based Inverse Rendering  | The University of Texas at Dallas | PyTorch May 2019 – July 2019
• Implemented algorithm for 3D face reconstruction from 2D images.
• 3D Morphable Model (3DMM) used as a priori mesh for efficient inverse rendering.


Microscopic Image Analysis  | Clemson University | LabVIEW May 2018 – July 2018
• Developed LabVIEW scripts for analyzing images from Magnetic Rotational Spectroscopy (MRS) experiment.

PROJECTS

In-The-Wild Depth Estimation via Test-time Optimization  | PyTorch Present
• Novel method to **generalize depth estimation** to in-the-wild setting.

SAR-NeRF | PyTorch Apr 2023
• Research focused on modifying NeRF for 3D reconstruction of complex-valued radar data.

Small NeRF  | PyTorch Apr 2022
• Implemented a modified version of NeRF to reduce training time and computational cost.
• Experimented with multiple architectures to determine the best approximation of the original NeRF.

Co-Tuning for Transfer Learning on TACO Dataset  | PyTorch Dec 2021
• Implemented and verified the novel transfer algorithm proposed in "Co-tuning for Transfer Learning".
• **First team** to implement co-tuning on TACO (Trash Annotations in Context) dataset.

Classification of Cancer Progression by Structuring Clinical Data | Tensorflow Dec 2019
• Developed a **novel model** to predict the probability of cancer by structuring Electronic Health Records using NLP techniques.

Forensic Camera Model Classification using Local Binary Pattern | MATLAB Apr 2018
• Implemented algorithm to identify source camera from images.
• **Created novel dataset** to test the model.