

GIRISH CHANDAR G

East Lansing, Michigan

📞 +1(734)8810776 ✉️ ganesang@msu.edu 🌐 Homepage 💡 Google Scholar

OBJECTIVE

Motivated Ph.D. student specializing in **depth estimation**, **3d reconstruction**, **autonomous vehicles**, and **robot manipulation**, with relevant research and industry experience working with foundation models, diffusion architectures, VLMs, and VLAs.

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

SELECTED PUBLICATIONS

Replay-Free Continual Learning for Robot Manipulation <i>Girish Chandar G, Yuliang Guo, Xiaoming Liu</i>	In Progress, CVPR 2027
Hierarchical Anchor-Grid Representation for Robust Lane Detection <i>Girish Chandar G, Adithya Mohan, Visesh Chari, Xiaoming Liu</i>	In Progress, CVPR 2027
DepthAgent: Towards Better Universal Depth Estimation via Sample-wise Expert Selection 📄 <i>Jie Zhu, Girish Chandar G, Xiaoming Liu</i>	In Review, NeurIPS 2026
UniDAC: Universal Metric Depth Estimation for Any Camera 📄 <i>Girish Chandar G, Yuliang Guo, Liu Ren, Xiaoming Liu</i>	CVPR 2026
Unleashing the Power of Chain-of-Prediction for Monocular 3D Object Detection 📄 <i>Zhihao Zhang, Abhinav Kumar, Girish Chandar G, Xiaoming Liu</i>	CVPR 2026 (Highlight)
RePLAY: Remove Projective LiDAR Depthmap Artifacts via Exploiting Epipolar Geometry 📄 <i>Shengjie Zhu*, Girish Chandar G*, Abhinav Kumar, Xiaoming Liu</i>	ECCV 2024

INTERNSHIPS

Efficient Spatially-Guided Lane Detection for Autonomous Driving Stack AV PyTorch	May 2026 - Aug 2026
Stereo Hazard Detection NVIDIA PyTorch - Implemented end-to-end deep learning model using a custom UNet as the backbone for feature map extraction. - Outperformed baseline by achieving zero false positives.	May 2022 - Aug 2022
Auto Shape Detection in Machine Vision 📄 Zentron Labs Python (Numpy, OpenCV) - 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%	Oct 2020 – Aug 2021
Optimization based Inverse Rendering 📄 The University of Texas at Dallas PyTorch - Implemented algorithm for 3D face reconstruction from 2D images. 3D Morphable Model (3DMM) used as apriori mesh for efficient inverse rendering.	May 2019 – July 2019
Microscopic Image Analysis 📄 Clemson University LabVIEW - Developed LabVIEW scripts for analyzing images from Magnetic Rotational Spectroscopy (MRS) experiment. - Developed image-based algorithms to detect the angular velocity of nanotubes for microfluid viscosity estimation.	May 2018 – July 2018

POSITIONS

Research Assistant Dr. Xiaoming Liu, Michigan State University Ph.D. research focused on depth estimation, autonomous vehicles, and robot manipulation.	June 2023 - Present
Graduate Student Research Assistant Dr. Stella Yu, University of Michigan-Ann Arbor Researched long-tailed perception and radar-conditioned 3D reconstruction.	Jan 2023 – Apr 2023
Research Intern Dr. Yang Zheng, NVIDIA Developed novel solution for stereo hazard detection for autonomous perception.	May 2022 – August 2022
Research Assistant Architecture & AI Laboratory, University of Michigan-Ann Arbor Explored intersections of artificial intelligence and architectural design at a multidisciplinary lab.	Sep 2021 – April 2022
Research Intern Zentron Labs Developed novel computer vision algorithms for automated shape detection in industrial machine vision systems.	May 2019 – August 2019
Research Intern Dr. Xiao Guo, University of Texas Dallas Explored and implemented optimization based 3D face reconstruction from 2D images.	May 2019 – August 2019
Research Intern Dr. Konstantin Kornev, Clemson University Developed image analysis solutions to estimate microfluid viscosity using nanotubes.	May 2019 – August 2019

SKILLS/RESPONSIBILITIES

Languages/Libraries | Python, PyTorch, Numpy, OpenCV, Pandas, Hugging Face.
Developer Tools/Technologies | VS Code, Cursor, Weight & Biases, Linux, CUDA, SLURM, GitHub, MATLAB.
Reviewer | CVPR (2025,2026), ICCV(2025), ECCV (2026), NeurIPS (2025,2026), BMVC (2026).

SELECTED RESEARCH PROJECTS

Test-time Adapter for Metric Depth Estimation in Outdoor Scenes PyTorch	Nov 2025
- Novel method to generalize depth estimation to in-the-wild setting. - Estimate scale using LLMs to lift relative depth to metric depth with no training.	
3DGS-based Monocular Novel View Synthesis with weak 3D Supervision PyTorch	Apt 2024
- Propose a novel solution for novel view synthesis without the need for expensive 3D data. - Leverage prior knowledge from video diffusion models to generate occluded regions.	
SAR-NeRF PyTorch	Apr 2023
- Research focused on modifying NeRF for 3D reconstruction of complex-valued radar data. - Mathematically modified the rendering process for NeRF to incorporate radar physics.	
Unsupervised Semantic Segmentation using Pseudo Attributes PyTorch	Apr 2023
Research focused on extracting mid-level attributes for unsupervised semantic segmentation.	
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.	

SELECTED ACHIEVEMENTS/AWARDS

- Awarded **Best Poster** at Michigan State University - 2024 Engineering Graduate Research Symposium.
- Secured **Highest Grade** awarded in the following courses in University of Michigan - Ann Arbor and IIT Gandhinagar:
Matrix Methods for Signal Processing and Machine Learning (A+: 4.3/4), Machine Learning (A: 4/4), Deep Learning for Computer Vision (A: 4/4), 3D Computer Vision (A: 10/10), (A: 10/10), Mathematical Foundation for Computer Vision and Graphics (A: 10/10).
- Dean's List Awardee** for five semesters in B.Tech; awarded by IIT Gandhinagar, **top 1%** of every batch for **outstanding performance**.