DEEPTI HEGDE

3D Computer Vision, Deep Learning

https://deeptibhegde.github.io

ABOUT ME

I am a fourth year PhD student advised by Vishal M Patel at the Vision and Image Understanding Lab in the Department of Electrical and Computer Engineering, Johns Hopkins University. I am interested in learning in label and data scarce scenarios as well as vision-language models for 3D scene understanding. I have previously worked on pointcloud refinement, image enhancement, and embedded intelligence.

EDUCATION

Johns Hopkins University *August 2020 - Present*
PhD, Department of Electrical and Computer Engineering

KLE Technological University *August 2016 - June 2020*
Bachelor of Engineering, School of Electronics and Communication

EXPERIENCE

Qualcomm June 2024 - September 2024
Research Intern

Summer research internship working on end-to-end planning with large language models for autonomous driving.

Microsoft Research April 2024 - June 2024
Research Intern

Summer research internship working on large language models and 3D data.

Mitsubishi Electric Research Labs (MERL) June 2023- September 2023
Research Intern

Summer research internship working self supervised representation learning on LiDAR point clouds.

Mitsubishi Electric Research Labs (MERL) June 2022- August 2022
Research Intern

Summer research internship working on multi-modal domain generalization for 3D object detection using lidar and image data to address cross-dataset distribution shift in autonomous driving scenarios. Work submitted to a major computer vision conference.

Vision and Image Understanding Lab, Johns Hopkins University August 2020 - Present
Graduate Research Assistant

Research in the department of Electrical and Computer Engineering advised by Vishal M. Patel working on domain adaptation, domain generalization, and self-supervised learnign for 3D scene and shape understanding.

Samsung Research Institute, Bangalore November 2018- May 2019
PRISM Program

One year project collaboration with SRI, Bangalore on embedded computing intelligence and efficient implementation of the convolution operation for the ARM Compute Library

PUBLICATIONS

- Equivariant Spatio-Temporal Self-Supervision for LiDAR Object Detection,
  ***Deepti Hegde**, Suhas Lohit, Kuan-Chuan Peng, Michael Jones, Vishal Patel*, ECCV 2024
- Multimodal 3D Object Detection on Unseen Domains
  ***Deepti Hegde**, Suhas Lohit, Kuan-Chuan Peng, Michael Jones, Vishal Patel*, (under review)
- Attentive Prototypes for Source-free Unsupervised Domain Adaptive 3D Object Detection,
  ***Deepti Hegde**, Vishal Patel*, WACV 2024
- CLIP goes 3D: Leveraging Prompt Tuning for Language-Grounded 3D Recognition,
  ***Deepti Hegde**, Jeya Maria Jose Valanarasu, Vishal Patel*, OpenSun3D @ ICCV 2023
- Uncertainty-aware Mean Teacher for Source-free Unsupervised Domain Adaptive 3D Object Detection,
  ***Deepti Hegde**, Vishwanath Sindagi, Velat Kilic, A. Brinton Cooper, Mark Foster, Vishal Patel*, ICRA 2023
- Lidar Light Scattering Augmentation (LISA): Physics-based Simulation of Adverse Weather Conditions for 3D Object Detection,
  *Velat Kilic, **Deepti Hegde**, Vishwanath Sindagi, A. Brinton Cooper, Mark Foster, Vishal Patel*

COMMUNITY RESPONSIBILITIES

- Served as a reviewer for CVPR, ICCV, ECCV, WACV, ICRA, IROS, TPAMI.
- Helped to organize AIBSD workshop at AAAI 2024.
- Guest lectured in Deep Learning class, Spring 2023, 2024.