

SANDEEP N MENON

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EDUCATION

New York University (NYU) Courant Institute of Mathematical Sciences 2022 – 2024
Masters in Computer Science New York, USA
National Institute of Technology Karnataka, Surathkal, India (NITK) 2014 – 2018
Bachelor of Technology in Computer Science Karnataka, India

- President of Web Enthusiasts Club NITK. Organized mock interviews, CTFs, and Linux installation drives.
- Core executive member at IEEE NITK Student Chapter. Conducted hackathons and programming contests.

INDUSTRY EXPERIENCE

Deep Learning Research Engineer | Deepen AI | Hyderabad, India Sept 2020 – Jul 2022

- Developed 3D PointNet model that performs temporal smoothing of segmentation predictions over point cloud sequences, improving mean Intersection over Union (mIoU) by 20%.
- Built Sparse Point-Voxel CNN model for semantic segmentation of 3D point cloud sequences. Improved data annotation speed by 30% and achieved 76% mIoU score.
- Implemented object-aware anchor-free tracking for 2D visual object tracking and VPGNet model for lane segmentation and classification.
- Devised algorithm for targetless Camera-IMU and stereo camera calibration. Cut down calibration time by 90% for some customers.

Software Development Engineer II | Microsoft | Hyderabad, India Jun 2018 – Sept 2020

- Co-authored new Machine Learning method to identify similar won deals and opportunities for sales personas using Relationship Analytics in Dynamics 365, received patent award on the same.
- Developed GDPR query handling service for email insights infrastructure that handles up to 1 million daily service requests.
- Shipped Dynamics 365 sales insights connector in all Microsoft Power platforms that manage more than 9 million monthly service requests.

SELECTED PUBLICATIONS AND PROJECTS

Removing noise from Optical Coherence Tomography (OCT) Images [published] Aug 2017 - May 2018

- **Sandeep N Menon**, VB Vineeth Reddy, A Yeshwanth, BN Anoop, and Jeny Rajan. A novel deep learning approach for the removal of speckle noise from optical coherence tomography images using gated convolution–deconvolution structure. In *Proceedings of 3rd International Conference on Computer Vision and Image Processing*, pages 115–126. Springer, Singapore, 2020

Point Cloud Oversegmentation using Superpoint Graphs | PyTorch, Boost May - Jun 2021

- Adapted Superpoint Graph implementation to Argoverse point cloud dataset to achieve over-segmentation results of overall accuracy of 96% and Boundary Recall of 92%.

Online calibration of Surround-view Camera system | OpenCV, Sophus, Boost Apr - May 2021

- Online calibration of the four surround-view camera systems by minimizing photometric loss in the overlapping regions of the bird-eye view. Calibration is possible with just one snapshot from the four cameras.

Asymmetric 3D Convolutions in Torchsparse | PyTorch Feb 2021

- Contributed Asymmetric 3D Convolutions implementation for the open source repository TorchSparse, managed by MIT HAN Lab

Virtual Gym Trainer | PyTorch, Azure, OpenCV, Pose Estimation, PoseNet | Demo link May - Jun 2019

- Platform for guiding users through trainer-specified exercises using automatic audio and visual cues.

TECHNICAL SKILLS

Strengths: Deep Learning (PyTorch, TensorFlow, Keras, MMDet), Cloud Computing (Azure, Google Cloud)
Languages/Platforms: C++, C#, Python, Go, JavaScript, React, Docker, MongoDB, RocksDB, MySQL, Cosmos DB