

# SANDEEP N MENON

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## EDUCATION

**New York University (NYU) Courant Institute of Mathematical Sciences** 2022 – Present  
Masters in Computer Science New York, USA  
**National Institute of Technology Karnataka, Surathkal, India (NITK)** 2014 – 2018  
Bachelor of Technology in Computer Science - CGPA: 8.83/10 Karnataka, India

- President of Web Enthusiasts Club NITK. Organized mock interviews, CTFs, 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 a 3D PointNet model that performs temporal smoothing of segmentation predictions over point cloud sequences, improving mean Intersection over Union (mIoU) by 20%.
- Built a Sparse Point-Voxel CNN model for semantic segmentation of 3D point cloud sequences. Improved data annotation speed by 30% and achieved mIoU score of 76%.
- Implemented object-aware anchor-free tracking for 2D visual object tracking and VPGNet model for lane segmentation and classification.
- Developed algorithm for targetless Camera-IMU and stereo camera calibration.

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

- Introduced a new Machine Learning method to identify similar won deals in CRM context for Relationship Analytics in Dynamics 365, received a patent award on the same.
- Developed a GDPR query handling service for the email insights infrastructure that handles up to 1 million daily service requests.
- Shipped Dynamics 365 sales insights connector in Microsoft Flows that manages 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 oversegmentation 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 system by minimizing photometric loss in the overlapping regions of the bird-eye view. Calibration 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

**Virtual Gym Trainer | PyTorch, Azure, OpenCV, Pose Estimation | 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), Cloud Computing (Azure, Google Cloud Platform)  
**Languages/Platforms:** C++, C#, Python, Go, React, Docker, MongoDB, RocksDB, MySQL, Cosmos DB