

# 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 technical 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** **September 2020 – July 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** **June 2018 – September 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] **August 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 - June 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* **April - 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* **February 2021**

- Contributed Asymmetric 3D Convolutions implementation for the open source repository TorchSparse

**Virtual Gym Trainer** | *PyTorch, Azure, OpenCV, Pose Estimation* **May - June 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