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Sandeep N Menon

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EDUCATION

NYU COURANT
M.S. in Computer Science
2022 - Present | New York

NIT SURATHKAL
BTech in Computer Science
2014 - 2018 | Karnataka, India
CGPA: 8.83/10

COURSEWORK

GRADUATE
Programming Languages
Introduction to Deep Learning Systems
Operating Systems

UNDERGRADUATE
Computer Vision
Artificial Intelligence
Linear Algebra
Probability Theory
Advanced Data Structures
Graph Theory

ONLINE
Computer Vision Nanodegree
Udacity Nanodegree
(Image Captioning using CNN-RNN, 2D Graph SLAM)

Deeplearning Specialization
deeplearning.ai
(Neural Networks and Deep learning, Convolutional Neural Networks, Sequence Models)

Mathematics for Machine Learning: Linear Algebra
Imperial College London

Statistical Learning
StanfordOnline: STATSX0001
(Boosting trees, Discriminant Analysis, Support vector machines)

PROGRAMMING SKILLS

C++ • C# • Python • JavaScript
PyTorch • Tensorflow • Keras • SciPy
OpenCV • Azure • React.js • Three.js
• MySQL • MongoDB

EXPERIENCE

DEEPEN AI | Deep Learning Research Engineer
September 2020 - July 2022 | Hyderabad, India

- 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. Pre-labeled sequences improved data annotation speed by 30% and achieved mean Intersection over Union (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 targletless Camera-IMU calibration.
- Implemented algorithm for targetless stereo camera calibration.
- Created an on-demand GPU Virtual Machine allocation system using Azure. Enabled automatic allocation and de-allocation of expensive GPU machines, thereby saving up to 1000 USD per month.

MICROSOFT | Software Engineer
June 2018 - September 2020 | Hyderabad, India

- Introduced a new Machine Learning method to identify similar won deals in CRM context for Relationship Analytics in Dynamics 365, filed a patent on the same (awaiting approval).
- Designed and implemented Machine Learning infrastructure to run, store and display AI model predictions for Sales Insights features in Dynamics 365.
- 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.

PUBLICATIONS

[1] Y. A. A. B. N. Sandeep N Menon, V B Vineeth Reddy and D. J. Rajan. A novel deep learning approach for the removal of speckle noise from optical coherence tomography images using gated convolution deconvolution structure. *3^{rd} International Conference on Computer Vision & Image Processing*, 2019.

PROJECTS

VIRTUAL GYM TRAINER | Demo link

- Developed a platform where trainers upload their exercise specifics and then users are guided through them using audio and visual cues.
- Real-time human pose estimation using PoseNet network and geometric estimations to measure correctness of posture while exercising.

AWARDS

2019	1^{st} position	Microsoft Intelligent Edge Hackathon
2017	Best short paper	Microsoft Artificial Intelligence Meet
2017	4^{th}/1000+	IEEEXtreme 11.0 Programming Competition
2014	Top 0.1%	National Level Mathematics Board Exam