Tejaswini Dilip Deore

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EDUCATION

Master of Science in Robotics, Computer Science Concentration Sept 2022 - Dec 2024
Northeastern University, Boston, MA **GPA**: 4.0/4.0
Courses: Robotic Sensing and Navigation, Robot Mechanics and Control

Bachelor of Technology in Electronics and Telecommunication Aug 2016 - Nov 2020
MKSSS's Cummins College of Engineering for Women, Pune, India **GPA**: 8.89/10
Courses: Data Structures, Object Oriented Programming, Mechatronics, Control Systems, Digital Image Processing

TECHNICAL SKILLS

Python, C++, MATLAB, Matplotlib, OpenCV, Linux (Ubuntu), ROS, Git, Visual Studio Code, MS Office Tools

ADDITIONAL INFORMATION

- Interned as an Ambassador at "dToks"- raised mental health awareness among youngsters through social media platforms by communicating the importance of a healthy mind and body
- Coordinated a singing competition by taking in-charge of registrations and managing performances
- Managed various events during college technical and cultural festivals by taking care of publicity, crowd management, and registrations

WORK EXPERIENCE

Graduate Teaching Assistant for Pattern Recognition and Computer Vision Jan 2024- April 2024
Khoury College of Computer Sciences, Northeastern University, Boston, MA

- Assisted 120+ students with coding and grading projects in C++, Python and OpenCV
- Conducted office hours to mentor students on topics like object classification, augmented reality, & digit recognition

Mechatronics/Electrical Engineering Co-op July 2023- Dec 2023
Festo Corporation, Marlborough, MA

- Successfully organized a Christmas event for 40+ people
- Executed comparative analysis of two piston pumps, utilizing a data acquisition system to capture and analyze performance data, ultimately determining the superior-performing pump
- Designed and assembled a control cabinet for controlling a 3-axis gantry system

ETCS (European Train Control System) Application Engineer Oct 2020 - June 2022
Alstom, Bangalore, India

- Led data curation for major work packages of Radio Block Centre, Denmark, to ensure quality on-time delivery
- Scrutinized technical documents and tools qualitatively to enable decision-making by proposing effective solutions
- Trained 20 team members to operate European Rail Train Management System data design tools and processes

PROJECTS

Comparative Analysis of Optical Flow Estimation and Facial Motion Tracking April 2023

- Implemented optical flow estimation with classical computer vision using Farneback Algorithm and with deep learning using FlowNet 2.0 architecture
- Evaluated the performance of the classical and deep learning approaches for estimating dense optical flow by computing L1 error, average endpoint error, and average angular error metrics
- Compared performance of Farneback and FlowNet 2.0 for facial motion tracking, analyzing percentage overlap of predicted bounding boxes using optical flow and Harr-Cascade classifier methods

3D Object Classification from Partial Point Cloud Mar 2023 - April 2023

- Designed a novel system combining GRNet and PointNet architectures to classify objects from partial point clouds
- Evaluated and compared the system's performance with PointNet++ architecture for both partial and complete point cloud object classification
- Demonstrated a significant improvement in accuracy with the proposed system, achieving an accuracy of 93.8% compared to the 70% accuracy of PointNet++ architecture

Real-time 2-D Object Recognition Feb 2023

- Developed a system that can recognize 2-D objects using traditional computer vision techniques in OpenCV4
- Trained the system to recognize objects using scale, rotation & translation invariant features
- Used k-nearest neighbor classifier to classify new images based on the trained dataset, resulting in high accuracy in a variety of scenarios and lighting conditions