**Neet Mehulkumar Mehta**

Worcester, MA | [nmehta@wpi.edu](mailto:nmehta@wpi.edu) | +1 (774) 253 7865

**EDUCATION**

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| **Worcester Polytechnic Institute (WPI)** | **Worcester, MA** |
| Master of Science- Robotics Engineering, GPA- 3.66/4.00 | Dec 2022 |
| **Nirma University** | **Ahmedabad, India** |
| Bachelors in Mechanical Engineering, GPA- 7.8/10.00 | May 2020 |

**KEY SKILLS**

* **Programming Skills**: C++, Python, MATLAB
* **Tools and Libraries**: TensorFlow, Keras, Torch, ROS, Gazebo, OpenCV, CARLA simulator, Simscape, Simulink, Git, Solidworks, ANSYS, Blender 3D.

**WORK EXPERIENCE**

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| **Institute for Plasma Research (IPR)**  **Research Intern** | **Gandhinagar, India**  Jan 2020 – May 2020 |
| * Developed a fully working model 5-DOF serial manipulator on an omnidirectional platform for inspection of Tokamak reactor that can be controlled by VR setup. | |

**RESEARCH EXPERIENCE**

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| **Cognitive Medical Technology (COMET) Lab, WPI** | **Worcester, MA** |
| **Modeling the Kinematics and Dynamics of Continuum robot using Machine Learning Techniques** | Sept 2021 - Present |
| * Develop a Machine learning algorithm that most accurately models the complex and recursive kinematics and dynamics of continuum robots. * Developed a kinematics and dynamics model by neural network using TensorFlow. | |

**ACADEMIC PROJECTS**

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| **Real-time monocular vision-based SLAM with NVIDIA Jetson, CNN, and ROS** | Sept 2021 – Present |
| * Study different CNN architectures and techniques for depth reconstruction from a single image. * Use the developed CNN architectures as a part of the RTAB-MAP vSLAM algorithm pipeline to estimate the position of the moving Jetson nano and build the 3D map of the unknown indoor environment. | |
| **Motion Forecasting for Autonomous Vehicles** | Sept 2021 – Present |
| * Train a combined GANs and LSTM based architecture for trajectory prediction of self-driving cars on the dataset. | |
| **Self-driving car simulation in CARLA simulator** | Feb 2021 – May 2021 |
| * Implement Autonomous Driving algorithms for turning the vehicle and overtaking in low traffic scenarios in the CARLA simulator using python API. * Implemented Adaptive Cruise control (ACC) to an autonomous agent. * Personalized the turning experience by changing the parameters of the curves. | |
| **Implementation and Visualization of Autonomous Robot Path Planning Algorithms** | Feb 2021 – May 2021 |
| * Implemented discrete and sampling-based algorithms such as A\*, Weighted A\*, Dijkstra, Probabilistic Road Map(PRM), Rapidly exploring Random Tree (RRT), RRT\*, and Informed RRT\* to navigate through obstacles in a 2D environment. | |
| **Design and Simulation of a Quadruped Robot in different gaits and environments** | Feb 2021 – May 2021 |
| * Developed Kinematic and Dynamic model of the quadruped using different approaches and implemented different gaiting sequences (eg: walk, trot, gallop). * Developed control architecture for all the legs of the quadruped. | |

**EXTRACURRICULAR ACTIVITIES**

* **Teaching Assistant:** Assisted professor in organizing two graduate-level courses in Summer ’21.
* **Publicity Volunteer:** Gathered the highest number of students from other universities for national level Tech-Fest ‘Praveg ’18.