Animesh Nema

85 Park Avenue Apartment 4, Worcester, MA, 01605
774-502-4739 anema@wpi.edu
www.linkedin.com/in/animesh-nema/

Objective

Summer Internship in Robotics focused in Intelligent Robots and Industrial Automation.

Education

Worcester Polytechnic Institute (WPI) **Worcester, MA**
Master of Science in Robotics Engineering, GPA- 4/4 May 2019
Sri Ramaswamy Memorial University (SRM) **Tamil Nadu, India**
Bachelor of Technology in Mechanical Engineering, CGPA- 3.71/4 May 2017
Related Courses: Deep Learning, Foundations of Robotics, Smart Materials, Robot Dynamics*, Robot Controls*, Swarm Intelligence*.
* To be completed by May 2018.

Skills

Programming Skills: Python, MATLAB, C++, Buzz
Software Skills: CATIA, SolidWorks, Tensor Flow, Keras, OpenCV, Latex, Microsoft Office, Argos

Projects

Predicting Grade of Road for Autonomous Vehicles Using Supervised Deep Learning. **WPI**
Deep Learning September–December 2017
- Developed a deep learning neural network and trained it on a labeled dataset (Supervised learning) of Inertial Measurement Unit (IMU) sensor and Global Positioning System (GPS) readings.
- Built a Convolutional Neural Network using Tensorflow environment and Keras and programmed CNN architecture on Python to predict the grade of the road ahead and observed it in real-time.
- Project was selected for publication.

Adaptive trajectory Control of a Robotic arm. **WPI**
Robot Controls March 2018- April 2018
- Modelling of an adaptive trajectory controller on a Robotic arm to carry objects with unknown masses while maintaining its desired path.
- Requirements: MATLAB.

Three Finger Robotic Gripper with Tactile Sensors. **SRM**
Final Year Project January–May 2017
- Manufactured a 3-finger robotic gripper via 3D printing and tip of the gripper was mounted with tactile sensors (force resistive sensors) to determine appropriate minimum grasping force in order to avoid slip.
- Actuated all the fingers by a single servo motor, modelled using SolidWorks and programmed using Arduino.

Face detection using Deep learning **WPI**
Deep learning October 2017
- Implemented a supervised deep learning algorithm to learn features of different faces and detect them.
- Tested the algorithm using live feed from the web cam.
- Requirements: Python, OpenCV, Tensorflow, Keras

Robotic Control of Surgical Laser Waveguide using ABB IRB120 Robot **WPI**
Robot Dynamics February 2018- April 2018
- Dynamic modeling and control of the ABB IRB120 robot mounted with a laser waveguide, to follow certain trajectories and perform tissue ablation.
- Required software include ROS, Python and Gazebo.

Occlusion based Collective transport of concave objects using Khepera IV robots **WPI**
Swarm Intelligence March 2018- April 2018
- Decentralized collective transportation of concave objects using Khepera IV robots by filling up the concave regions of the object with the robots and then implementing occlusion based transport strategy on the object.
- Requirements: ARGOS, Buzz.

Extra-curricular Activities

- Co-founded an NGO called "Hind Towards Change" to create awareness and promote sanitation, education, fundamental rights, government schemes etc.

Interests: Cricket, Squash, Badminton, Reading and writing, Guitar, Piano and Tabla (Percussion Instrument).