CHINMAY .M. BURGUL
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Objective: Looking for full-time role in the field of robotics, motion planning and machine learning.

Education:

Master of Science, Robotics Engineering, May 2020 GPA: 3.84/4
Worcester Polytechnic Institute (WPI), MA
Bachelor of Technology, Mechatronics Engineering, May 2016 CGPA: 8.73/10
SRM University, India

Technical Strengths:

Programming Languages: C++, Python, MATLAB
Software and Libraries: ROS-I, Move-it, Gazebo, TensorFlow, Pytorch, OpenCV, Gym, Mujoco, Catia.
Related Skills: DL, DRL, Motion Planning, Dynamics, Navigation, and Controls.

Professional Experience:

Phood LLC, ML Intern (May '19 - August '19)
Worked on pre-trained Neural Network models to develop an Image Classification System of Food Items and deploying it in cloud setup.
Entra Mechatronics Pte ltd (India), Technical Engineer *(July '16 - Mar '17)*
Involved in developing food automation products, my roles included designing hardware by reverse engineering, Strategic procurement of off the shelf components, Vendor & OEM management.
The Construct, ROS Ambassador *(Jan '18 – August '18)*
Tutoring for ROS learning of packages for Motion planning and Navigation

Projects:

Dexterous Manipulation using Deep Reinforcement Learning on Friction Finger, WPI (May '19 - Ongoing)
Path Planning of With In-hand Manipulation of the object on Friction finger with Deep Reinforcement Learning Techniques. Training with state-of-art algorithms on hardware and software environments.
Multi Goal Reinforcement Learning based Motion Planning on Fetch Environment, WPI (Aug'19 - Dec'19)
Trained a policy on Mujoco, Openai Gym environment to perform a dynamic task of pushing a puck.
Exploration of latest skip-connection and regularization techniques, WPI (Feb'19 – Mar '19)
Exploring types of skip-connection models (ResNet, DenseNet) and regularization techniques and try coming up with a new model and compare its performance on CIFAR-10 dataset.
Patient Specific Steerable Needle Design & Constraint Motion planning of MRI Safe Neuro-Surgery Robot, AIM Lab, WPI *(Oct '18 – Dec '18)*
Design and Fabrication of Concentric Cannula system using Nitinol – a SMA to travel a curved path for performing thermal ablation in minimal invasive surgeries of brain Tumors.
High-Level Learning Symbolic Planning Method, HIRO Lab, WPI (Jan'19 – Mar '19)
Using high-level symbolic planning to investigate the high-level coordination strategy in manipulation when the low-level planner fails after exploring the given tree.
Autonomous Map Generation using RTAB Mapping and SLAM, WPI (Feb'19 - Apr '19)
Implementing Autonomous RTAB map generation algorithm in Indoor Environments using Real Time Appearance based Mapping (RTAB), SLAM packages and frontier-based mapping algorithm.
Kinematic, Dynamic Analysis and Path Planning of DVRK, AIM Lab, WPI *(Aug'18 – Dec '18)*
Worked on the Forward Kinematics, Inverse Kinematics, Dynamic Models and worked on Path Planning of the system using MATLAB.
Motion Planning and developing Robotic System for Hair Cutting Task, SRM University *(Oct '15 – Sept '16)*

Achievements:

Performance Award: University Rover Challenge - 2015, 2016 International Rank 12th and 9th respectively.
Elected as Class Representative in Undergraduate, SRM University (2014-2016)
South Asian Student Association (SASA), WPI (2019) – Elected as an Executive Committee member.