

Education

PhD, Computer Science and Engineering, University of Washington Advisor: Dr. Siddhartha S. Srinivasa	2017 – Present
MS, Robotics, Carnegie Mellon University [Transferred to UW] Advisor: Dr. Siddhartha S. Srinivasa	2016 – 2017
B.Tech, Mechanical Engineering, Indian Institute of Technology Madras Advisor: Dr. Arun D. Mahindrakar	2012 – 2016

Experience

Personal Robotics Laboratory University of Washington	Graduate Research Assistant 2017 – Present
With a research interest that lies at the intersection of planning and learning, I work on search-based geometric motion planning and decision-making under uncertainty in application to robotics.	
Personal Robotics Laboratory Carnegie Mellon University	Graduate Research Assistant 2016 – 2017
Studied the application of double quaternions for solving the inverse kinematics of high DoF robot manipulators, specifically the Kinova Jaco.	
Dynamics and Control Laboratory Indian Institute of Technology, Madras	Undergraduate Research Assistant 2015 – 2016
My Bachelor's Thesis investigated the application of the Leapfrog algorithm and Pontryagin's Maximum Principle to generate time, distance, and fuel optimal trajectories for mobile robots.	
Systemantics India Pvt. Ltd. Bangalore	Summer Research Intern 2014 – 2015
Modelled the dynamics of a hybrid manipulator Modelled the dynamics of a hybrid manipulator for trajectory tracking and control in performing industry-precision manipulation tasks.	
Raftar Formula Racing Indian Institute of Technology Madras	Vehicle Dynamics Engineer 2013 – 2014
Designed and manufactured the suspension system of a Formula-style racecar for Formula Student Combustion (FSC) Germany, 2014.	

Publications

- P1 **Sample-Efficient Learning of Nonprehensile Manipulation Policies via Physics-Based Informed State Distributions**, L. Pinto, A. Mandalika, B. Hou and S.S. Srinivasa. *arXiv preprint*, arXiv:1810.10654, 2018.
- P2 **Bayesian Policy Optimization for Model Uncertainty**, G. Lee, B. Hou, A. Mandalika, J. Lee and S.S. Srinivasa. *arXiv preprint*, arXiv:1810.01014, 2018. [in review for ICLR 2019]
- C1 **Lazy Receding Horizon A* for Efficient Path Planning in Graphs with Expensive-to-Evaluate Edges**, A. Mandalika, O. Salzman and S.S. Srinivasa. In *International Conference on Automated Planning and Scheduling (ICAPS)*, 2018.
- C2 **Numerical and Experimental Implementation of Leapfrog Algorithm for Optimal Control of a Mobile Robot**, A. Vamsikrishna, Arun D. Mahindrakar and Shaligram Tiwary. In *International Control Conference (ICC)*, 2017.

Teaching and Invited Talks

Graduate Teaching Assistant, University of Washington

Fall 2017

Advanced Robotics: Manipulation Algorithms

Guest Lectures, Lakeside High School, Seattle

Fall 2017

Introduction to Robotics

Mentoring

Rahul Kumar Vernwal

Summer 2018

Learning Efficient Roadmaps for Robust Motion Planning

Open Source Software Development Experience

Contributor to AIKIDO

2017 - Present

C++ library for solving robotic motion planning and decision making problems.

Repository: <https://github.com/personalrobotics/aikido>

Technical Skills

Languages: C, C++, Python, MATLAB, \LaTeX

Libraries and Tools: ROS, OMPL, OpenCV