

Aditya Nandakumar Dhawale

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EDUCATION	The Robotics Institute, Carnegie Mellon University <i>Masters of Science in Robotics (MSR)</i> May, 2020	QPA: 4.11
	Indian Institute of Technology, Guwahati <i>Bachelor of Technology, (B.Tech.), Mechanical Engineering</i> June 2016	QPA: 7.61

PUBLICATIONS	1. Efficient Parametric Multi-Fidelity Surface Mapping A. Dhawale , N. Michael. in RSS, 2020
	2. Fast monte-carlo localization on aerial vehicles using approximate continuous belief representations A. Dhawale , K. S. Shankar, N. Michael. in CVPR, 2018
	3. Reactive Collision Avoidance Using Real-Time Local Gaussian Mixture Model Maps A. Dhawale , X. Yang, N. Michael. in IROS, 2018
	4. Fast and Agile Vision-Based Flight with Teleoperation and Collision Avoidance on a Multirotor A. Spitzer, X. Yang, J. Yao, A. Dhawale , K. Goel, M.Dhabi, M. Collins, C. Boirum, N. Michael. in ISER, 2018

EXPERIENCE	Shield AI Engineer II - AI	July 20 - Present Pittsburgh, PA
	<ul style="list-style-type: none">• Developing and implementing theoretically motivated SLAM approach to enable robust and rapid exploration of unknown real-world environments• Developed a RGB-D ground truth generation pipeline using 3D maps to enable performance introspection of fully-autonomous aerial robots and curate data for various machine learning pipelines• Developed a reliable sensor intrinsic and extrinsic calibration framework for a group of RGB-D cameras and inertial sensors	
	The Robotics Institute, Carnegie Mellon University Research Associate; Graduate Student Researcher	Aug 16 - Present Pittsburgh, PA
	<ul style="list-style-type: none">• Developed a novel SLAM technique using Gaussian distributions as a succinct and accurate map representation to enable real world distributed mapping and perform fast collision avoidance on > 10 m/s flights through cluttered environments• Developed a particle filter based localization framework that runs at 10 Hz on Size Weight and Power (SWaP) constrained systems, using lightweight RGB-D sensors	
	The Robotics Institute, Carnegie Mellon University Robotics Institute Summer Scholar	May 16 - Aug 16 Pittsburgh, PA
	<ul style="list-style-type: none">• Implemented and tested a calibration framework for computing relative transforms between multiple depth and color sensors	

**Indian Institute of Technology
Undergraduate Thesis**

**July 15 - May 16
Guwahati, India**

- Built and developed an Autonomous Underwater Vehicle with autonomous navigation, stereo mapping, and PD control

EXPERTISE

Languages : C/C++, Python, CUDA, MATLAB, ROS, L^AT_EX

Concepts : SLAM, Computer Vision, Sensor Calibration, Machine Learning