

# ADITYA SREEKUMAR

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EDUCATION	<b>University of Pennsylvania</b> - School of Engineering and Applied Science, Philadelphia, PA <i>Master of Science in Engineering</i> Major : <i>Robotics and Artificial Intelligence</i> Accolades : Member of Winning team - Robocup 2012 Humanoid Kidsize League	May 2013 GPA : 3.62/4
	<b>Amrita Vishwa Vidyapeetham</b> - Amrita School of Engineering, Coimbatore, India <i>Bachelor of Technology</i> Major : <i>Electrical and Electronics Engineering</i> Accolades : 5th Rank in University, Best Outgoing Student, Best All-Rounder	May 2011 GPA : 9.10/10
SKILL SET	<b>Languages and Software</b> : MATLAB, C, C++ <b>Office Suites</b> : MS Office, Open Office <b>Operating Systems</b> : Linux, Windows <b>Familiarity</b> : Lua, HTML, CSS, Solidworks, OrCAD, MPLab, L <sup>A</sup> T <sub>E</sub> X	
WORK AND INDUSTRY EXPERIENCE	<b>Research Assistant</b> <b>Project : SAFFIR Humanoid Platform</b> GRASP Lab, School of Engineering and Applied Science, University of Pennsylvania <b>Advisor</b> : Dr. Daniel Lee <b>Description</b> : Development of a full sized humanoid robot for fire fighting in the navy <ul style="list-style-type: none"><li>Modelled the forward kinematics of the arm of the Darwin humanoid platform and simulated in Matlab</li><li>Presently working on the inverse kinematics of the Darwin humanoid Platform</li></ul>	October 2012 - Present
	<b>Research Assistant</b> <b>Project : DARPA Tactical Expandable Maritime Platform</b> GRASP Lab, School of Engineering and Applied Science, University of Pennsylvania <b>Advisors</b> : Dr. Vijay Kumar and Dr. Mark Yim <b>Description</b> : Control of multiple robotic modules in water to form random goal structures <ul style="list-style-type: none"><li>Implemented single module PID control using C++ for station keeping</li><li>Designed and created simulation environments in MATLAB for testing control and swarm algorithms</li></ul>	October 2011 - October 2012
	<b>Team Member</b> <b>Project : Team Darwin</b> GRASP Lab, School of Engineering and Applied Science, University of Pennsylvania <b>Advisor</b> : Dr. Daniel Lee <b>Description</b> : Multiple humanoid robots working as a team to play soccer <ul style="list-style-type: none"><li>Improvise and expand high level team behaviour</li><li>Calibrate, test and debug robot behaviour with a MATLAB and Lua based debugger</li></ul>	August 2011 - Present
	<b>Trainee</b> <b>Company : Yokogawa India Ltd</b> Electronic City, Bangalore, India <b>Description</b> : Training in DCS and PLC fundamentals, Engineering and Maintenance	May 2009 - June 2009
	<b>Robotic Teleoperation</b> School of Engineering and Applied Science, University of Pennsylvania <b>Description</b> : Tele-operation of a Puma 260 Robotic arm using a Phantom haptic manipulator through a MATLAB interface <ul style="list-style-type: none"><li>Created a virtual room using the Phantom haptic device</li><li>Converted from the Phantom Kinematics to the Puma 260 Kinematics.</li><li>Interfaced a PlayStation Controller, for additional commands like clutching, arm rotation, scaling, etc.</li></ul>	March 2012 to April 2012
PROJECTS	<b>Robockey</b> School of Engineering and Applied Science, University of Pennsylvania <b>Description</b> : Build 3 autonomous robots, capable of localisation, communication and holonomic motion <ul style="list-style-type: none"><li>Designed the analog circuitry for puck detection, omnidirectional motion and "kicking" the puck</li><li>Implemented state machines to determine bot response when searching for puck, acquisition of puck and goal keeping</li></ul>	October 2011 to December 2011
	<b>Inverted Pendulum</b> School of Engineering and Applied Science, University of Pennsylvania <b>Description</b> : Build a 2 wheeled robot which can balance itself based on position and velocity measurement <ul style="list-style-type: none"><li>Designed the analog circuits required for interfacing the sensors and actuators to the controller</li><li>Implemented PID control on the motors, based on input from a 2 DoF accelerometer and 1DoF Gyroscope, using C</li></ul>	October 2011
	<b>PUBLICATIONS</b> M. Akhil et al., "Simulation of the Mathematical Model of a Quad Rotor Control System Using Matlab Simulink", <i>Applied Mechanics and Materials, Mechanical and Aerospace Engineering</i> , Vols. 110-116, 2011, pp 2577-2584	