Shastri Ram shastrir@andrew.cmu.edu 412-818-3101

226 Shady Ave, Apt 204, Pittsburgh, PA 15206

EDUCATION

Carnegie Mellon University, Pittsburgh PA

- BS Electrical and Computer Engineering, Additional Major in Robotics
- Cumulative QPA- 3.85/4.00
- Expected Graduation May 2016
- Programming Languages: C, C++, ROS, Simulink, Python, MATLAB, Arduino, Pascal, System Verilog

WORK EXPERIENCE

Research Assistant Oct 2012- Dec 2013
Quality of Life Technology Center Personal Robotics Lab
Carnegie Mellon University

- Designed custom mounted shields for the 2D scanning Hokuyo lasers using Creo Parametric
- Developed a program using Python and the ROS Python package, for the robot, HERB, to autonomously dock and charge itself
- Calibrated 2D scanning lasers

Research Assistant and Systems Engineering Intern May 2015- Present
Field Robotics Center
Carnegie Mellon University

- Working in collaboration with Yamaha to build and design a self-driving all terrain vehicle
- Integrated sensors such as GPS, IMU, Velodyne 64, Multisense with vehicle.
- Built a ROS-CAN driver, using C++, that listened to ROS messages and published them to the CAN network and vice versa
- Conducted system characterization tests to develop the open loop model of the vehicle, then modified and tuned the control architecture of the vehicle, via Simulink to have a better response
- Debugged and tested the system extensively to identify and fix bugs especially with the drive by wire system

PROJECTS

Mobile Robotic Fork-truck Aug- Dec 2014

- Fabricated the entire software system of the robot using MATLAB for Mobile Robotics Programming course

Humanoid Robotic Hand May 2014

- Designed and built a novel robotic hand for Humanoids course final project that incorporated palm actuation
- Programmed two Arduino microcontrollers to process input from flex sensors and output signals to rotate servos to move the hand

Desktop Water Fountain Spectrum Display Jan 2015

- Built a device that takes in an audio input and displays the frequency spectrum of the audio using water jets.

RELEVANT COURSES

- Past Courses- Fundamentals of Controls, Embedded Control Systems, Intro to Robotics, Artificial Intelligence, Humanoid Robotics, Mobile Robot Programming, Robot Kinematic and Dynamics, Systems Engineering
- Current Courses- Mechatronics, Computer Vision, Embedded Systems Engineering, Robotics Capstone

ACTIVITIES

Formula Society of Automotive Engineers, Director of Safety Systems Jan 2013- Jul 2014

- Constructed and tested all safety systems for CMR 14E electric race car
- Designed the Brake Plausibility Device for the car.
- Authored the Electric Safety Form and Failure Mode Effects Analysis form for the safety system

Eta Kappa Nu- Electrical and Computer Engineering Honor Society May 2015- Present

- Vice President of the honor society. In the process of reviving the society to get more student, alumni and corporate support.