

AHALYA MANDANA

ahalyamandana2018@u.northwestern.edu

Portfolio: am2512.github.io

Mobile: +1-(773)-807-6306

EDUCATION

Northwestern University

M.S. in Robotics, CGPA: 3.675/4

anticipated graduation: December 2018

M.S. Ramaiah Institute of Technology

B.E. (Bachelor of Engineering) in Electrical and Electronics Engineering, CGPA: 8.59/10

June 2017

PROJECT WORK

Baxter the Laundry Assistant

December 2017

- Final group project for ME-495 Embedded Systems in Robotics - to perform a task with the Baxter research robot from Rethink Robotics.
- Wrote custom ROS nodes/services to make the Baxter research robot thread/unthread the lid of Tide bottle.
- Custom ROS subscribers/publishers were created to collect pose data of the lid, to send to the arm
- Project also included AR tag tracking, quaternion multiplication, and inverse kinematics.

Simulation of somersault on a trampoline

December 2017

- Simulated the motion of a person doing a backward somersault on a trampoline, using Mathematica
- Lagrangian dynamics and concepts of rotational inertia were also applied.

Medical and Home Assistant Robot for the Elderly

January-May 2017

- Final undergrad group project to build a prototype of a home assistant robot for elderly people with limited mobility: functions included picking/placing small household objects, dispensing medicines, and an emergency text feature to alert family members/doctors. Main hardware used was a Raspberry Pi 3 Model B for image processing and an Arduino Uno board. The primary programming language was Python.
- The robot was controlled by an app, which displayed a live video stream from a webcam fixed on the robot.

e-Yantra Robotics Competition, 2015 conducted by IIT, Bombay

February 2016

- Our four member team participated in this all-India robotics competition, organized by the Indian Institute of Technology, Bombay (IIT-B).
- Theme was Recyclable Waste Management and we successfully implemented the code using C programming on ATmega 2560 and ATmega 16A AVR microcontrollers.
- Group was placed among the top 10 teams, across India, in the Recyclable Waste Management category.

WORK EXPERIENCE

Electronics For You Group, Bangalore, Summer Intern

June 2016 - July 2016

- Internship involved writing articles based on expert talks from 'India Electronics Week 2016', interacting with industry experts to gather additional input for articles for the *Electronics Of Things* portal and 'Electronics For You' print magazine.
- Fields covered: Bluetooth Low Energy and Bluetooth Beacon Applications, Interoperable IoT Solutions, Renewable Energy Microgrids, Security of Things, Human Health IoT, Threat Perception and Attack Scenarios in Automotives.

INDUSTRY INVOLVEMENT

Summer Camp by Free Software Movement Karnataka (FSMK)

July 2014

- Attended a two-week residential Open Source coding workshop conducted by FSMK.
- Exposure to NodeJS, MongoDB, Mozilla Webmaker Tools

3D Printing Workshop by Li2 Innovations

March 2014

- Two-day workshop with exposure to Blender and Cura.
- Design of small objects using Cura, to use for 3D printing

SKILLS

C	ROS	Rviz	Verilog	Python
Mathematica	HTML	Git	JavaScript	MySQL
Gazebo	MATLAB	Assembly Language	CSS	PSpice Software