**OBJECTIVE:** To obtain a full time job in a tech company which will prepare me for a successful entrepreneurial career in the field of advanced robotics

**INTERESTS:**  Innovative Product Development, Mobile Robots, Industrial Robots & Automation, Driverless Vehicles, System Engineering

**EDUCATION: Carnegie Mellon University Pittsburgh, PA, USA**

M.R.S.D.(Robotics) Dec 2016

Current Student

**Michigan Technological University** **Houghton, MI, USA**

 M.S. (Mechanical Engineering) December 2013

 GPA: 3.51/ 4

 **Vishwakarma Institute of Technology Pune, MH, India**

 B.E. (Mechanical Engineering) May 2011

 GPA: 6.93/ 10

**RELEVANT COURSEWORK:**

Distributed embedded control systems Dynamic controls and systems Intro to Robotics Business\* Manipulation, Mobility & Control\* Linear Systems Biomechanics & Motor Control\* System Eng & Management for Robotics\* Optimization Intro to robotics and mechatronics

**SKILLS:**

 ***Laboratory Softwares CAD softwares Simulation Softwares Programming Languages***

 LabVIEW Solidworks 2013 MATLAB (Simulink, Stateflow) Arduino

 CANKing NX 8.0 SimMechanics C,C++, C# Programming

 Motohawk-Mototune AutoCAD 2013 ABB RobotStudio Matlab

**WORK EXPERIENCE:**

***Welltech Engineering Research & Development Centre, OH, USA* Jan 2014-Present**

(Founder/ Lead Manager- Engineering projects)

* Conceptualize, Review & Monitor product development aimed at Own Equipment Manufacturing (Team of 6)
* Plan and develop systems to improve the operating quality and efficiency of the department
* Communicate with Staff, Managers, and Senior Management on department operations (Committee of 10)
* Responsible for monitoring finance, accounts & budget management

**Projects:**

* **Development of XP BOT-500:Autonomous navigation material handling system: Feb 2014- Present**

Concept development and Project planning

Review and monitor research, engineering design and troubleshooting teams

Cost effective resource budget estimation for of the project

Outcome:15 % increased load carrying capacity, 40 % elimination of manual work on shop floor

https://mobrob.com/xpbot500

* **Development of ‘Hi-5ver’ the multipurpose digital assistant: June 2014- Oct 2014**

Conceptualization of a voice enabled digital assistant for common office notifications

Review and monitoring R &D, engineering design and prototyping teams

Strategy formation on launching and marketing the system as a product

Outcome: Firstportable consumer device devised by company to enter electronics market

***Technocraft LLP, MN, USA* June 2011- July 2012**

(Senior Research Engineer)

* Project Planning & Team supervision (team of 4)
* Process design, development & implementation, robot simulation & conducting field training
* Robotic software/hardware research, robot simulation, recommendations & procurement

**Projects:**

* **Robotic Automation of silencer weld assembly line*:* July 2011-** **July 2012**

Project manager

Modeling and design lead, Estimation of robotic equipment requirements

Outcome:63% saving on manpower front, 60% saving on effective area usage

**ACADEMIC PROJECTS:**

* **Development of ‘Robographer’: Autonomous photo capturing SWARM robot system Fall 2015**

Systems Engineer & mechanical design and development

Design and build [pan tilt units for cameras](https://www.youtube.com/watch?v=xs1pSjBnqyg)

Develop SWARM controller for camera fitted turtle bots following humans to capture facial expressions

Outcome (Expected): Vision & mapping techniques, SWARM control, System Engineering implementation

<http://mrsdprojects.ri.cmu.edu/2015teamg/>

* **Manipulator control using electromyography (EMG) signals from human arm muscles:Fall 2013**

Exploring applications of electromyography signals in commanding the robotic systems

3D modeling and real-time simulation with SimMechanics of AL5D manipulator

Analysis and testing the system using Arduino programming and LabVIEW interface

Outcome: Aptitude in data acquisition systems, EMG sensors, Arduino programming

<http://me.sites.mtu.edu/rastgaar/hirolab/education/>

* **Developing educational platform to compare control of Manipulator and its model Summer 2013**

Analyze the variance in response of PID control of actual manipulator and its simulation

Working algorithm development using Simulink

Developing 3D simulation and interfacing with Arduino microcontroller

GUI creation using GUIDE toolbox to operate manipulator and simulation in tandem

Outcome: Proficiency in PID control design, GUI development, Simulink, SimMechanics

<http://me.sites.mtu.edu/rastgaar/hirolab/education/>

* **Control system development for a configurable HEV Spring 2013**

Implement control logic for engine & motor control, regenerative and brake torque generation

Algorithm development for configurable HEV system using Simulink and Motohawk

Calibrations and control logic validation using Mototune

Outcome: Proficiency in model based embedded design, proficiency in Stateflow, Motohawk, Mototune

**LEADERSHIP:**

* Founder member, Technocrat Club Techtalk Forum, Marathwada Auto Cluster, MH, India (Nov 14 - Aug 15)
* Planning committee leader & Software consultant, Marathwada Auto Cluster, MH, India (Jan 14 - July 15)
* Coordinator and Core committee member, Brownfield Electronic Cluster, MH, India (Sept 14 - July 15)
* Core committee member, Solid Waste Management Round Table, Aurangabad, MH, India (Sept 14- Aug 15)
* Introductory robotics faculty, Summer Youth Program 2013, Michigan Tech. University (May 13-Aug 13)

**ACTIVITIES:**

* ‘Inside out ’global executive coaching programme for world class leaders (Sept 14- Present)
* Member of ‘Civic Response Team’ & ‘Catalysts’, group of socially concerned youngsters (Aug 13-Dec 14)
* Trained Indian Classical Singer
* Music committee coordinator, Indian Student Association, Michigan Tech. University (Sept 2012-Dec 2013)