# Chirag Shah

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## Career Objective

To obtain a niche position in the Electronics Industry where I can utilize my experience and skill of combining hardware and software to create a meaningful product for the organization.

## Education

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|---|---|---|
| 2015 - 2019 | Currently studying in third year, Electronics Engineering<br>Sardar Patel Institute of Technology | 7.3 CGPA |
| 2015 | HSC - Maharashtra State Board<br>PACE Junior Science College, Dadar | 82.31% |
| 2013 | SSC - Maharashtra State Board<br>St Xavier's High School, Fort | 87.5% |

## Project/ Achievements

### e-Yantra Robotics Competition 2016 (1st Place)

e-Yantra is an initiative to spread education in Embedded systems and Robotics by **IIT Bombay sponsored by Ministry of Human Resource Development.** In eYRC 2016 **3,620 Students in 905 Teams** participated in the competition which was spread across 7 themes.

- Secured **first place among 167 teams** that participated in "Launch a Module" theme
- Designed and built the hardware of the robotic arms and programmed the Firebird-V robot in embedded C (ATMega 2560)
- Video Link of the project

### DIY Time-lapse Dolly in the Raspberry Pi Contest 2016 (1st Prize)

Instructables is a website specializing in user-created and uploaded do-it-yourself projects

- Designed setup for adding motion to a time lapse photo sequence
- The Instructable can be viewed at http://www.instructables.com/id/DIY-Time-Lapse-Dolly-1/
- Won the **first prize** (3 first prizes) in this competition out of 198 entries from around the world
- Conceptualized, built and wrote the Instructable for building the Time Lapse Dolly

### Troubleshooting Competition – Electronics Department SPIT (2nd Prize)

- This is an annual competition held by the Electronics Department of SPIT
- The task was to debug an electronic circuit in simulation and hardware, find out the fault and rectify it

## Ongoing Projects

### Robot Development using ROS

- This project is about exploring the Robot Operating System (ROS) framework
- We will develop a robotic system with various sensors and actuators to understand the underlying concepts
- The goal is to create a robot/quadcopter capable for forming a 3-D map of the surroundings using a depth camera (Microsoft Kinect)

### Constant Current Load
This circuit can be used to test solar panels, power supplies to test the ratings and specifications

- This circuit uses a MOSFET and an op-amp to create a variable resistance load which will maintain a set current flowing through it
- The current and voltages are displayed on an onboard LCD using a ATMega microcontroller
- I designed the circuit and built a PCB for the same

## Trainings and Internships

### eYantra Summer Internship - Formation Control of Multiple Swarm Robots
**7 weeks** summer residential internship (22/May/2017 to 7/July/2017) at **IIT-Bombay** under the eYantra Summer Internship 2017 program

- The objective of this internship was to explore algorithms to control groups of robots all at once and make different swarm formations
- I did the embedded C programming for the swarm robots (ATMega-16)
- Video link of a video of the swarm formations

**SPIT** - 3 weeks summer training program on Embedded Systems Design held from 13/June/2016 to 8/July/2016

**SPIT** - 2 days MSP-FPGA software and hardware co-design held from 16th to 18th September 2016 at SPIT, Mumbai

## Technical Skills

- Embedded C programming (ATMega µCs, esp-8266, Arduino)
- Complete PCB designing and fabrication (power supplies, µC board, constant current load PCB)
- Basic image processing using OpenCV and python
- Basic FPGA programming Atlys Spartan-6 trainer board
- Project Management using GIT
- Document formatting using LATEX

## Soft Skills

- Patient and persistent in completing my projects
- Able to learn new skills as per the requirements of the project

## Other Interests

- PADI Level 2 certified SCUBA diver
- Sailing and Wind Surfing
- Photography
- Rubiks cube enthusiast

## Co-curricular activities

- SP-Open Mini 2015 (speed cubing competition) – in charge of volunteer training
- Class **Representative** – FY, SY and TY (Electronics Engineering)