

Tarun Mittal

B.Tech ECE 5th Sem

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SKILLS

- **Intermediate Knowledge:** Raspberry Pi, Arduino, ARM assembly language, VHDL, Python, C
- **Basic Knowledge:** MSP430, Verilog, Firebase, TCP Sockets, Android App Development

PROJECTS

Key Vending Machine (For a College Start-up: Wheels On Roll)

NOV2016 - PRESENT

- RFID based vending machine capable of dropping and accepting the keys
- Made the machine with two hardware combinations:
 - Using RaspberryPi Zero W, RCM6300 RFID scanner, LCD screen and DRV8825 motor driver for stepper motor.
 - Using CC3200 microcontroller with TRF7970A RFID scanner and L293D motor driver.
- Campus wide implementation planned for August 2017

Smart Home

MAY 2017

- Control CFL bulb using
 - Android app by changing data in Firebase and streaming the changes through an RPi zero W and then using a relay to change AC output.
 - Control CFL bulb using a standard TV remote by receiving and decoding it at RPi using Infrared Receiver(TSOP1738).

Automated Guided Vehicle

AUG 2016 - MAY 2017

- Industrial project funded by Daimler.
- Worked on ultrasonic sensors(LV-MaxSonar) to help avoid collision of the robot with obstacles.
- Divided the space in front of robot into three virtual zones(with hysteresis)to decide when to stop.
- Designed a circuit to prevent damages to vehicle due to current spikes.

Light Following Robot

OCT 2016

- Built a robot which moves in the direction of light in complete darkness and stops once near it.
- Used three LDRs as sensors, Arduino, L293d motor drivers to build it.
- Successfully completed a series of tasks presented in the competition (There were 6 light sources in a dark arena which is controlled by organizers and the bot has to move in direction of light and stop near it.)

Chronos

OCT 2016

- Countdown clock for Techfest with 8 seven segment displays multiplexed and controlled by 1 arduino uno.
- ICs ULN2803 and UDN2981 were used for sourcing and sinking current to the LED strips.
- Real time clock used to prevent resetting of time during a power cut.

EDUCATION

National Institute of Technology, Surathkal

B.Tech in Electronics and Communication Engineering, Batch of 2019

CGPA - 8.57

St. Mary's Junior College, Navi Mumbai

HSC(12th Grade) - 99.94 percentile

JEE Main AIR - 2749 (99.09 percentile)

St. Mary's Multipurpose High School

SSC(10th Grade) - 95.45%

AWARDS and HONOURS

- **Trade Off Winner**

Annual TechFest Of NITK - October 2016

An electronics based competition in which a written test is given in first round and in the second round, one has to solve the problem statements i.e design circuits in the minimum possible cost. The winner is one who does this in the least time.

- **CODE.FUN.DO Campus Winner** - Organized by Microsoft - March 2016
- **Best Outgoing Student** - St.Mary's Junior College, Vashi - January 2015
- **1st Runner Up** - Science exhibition in college(12th)

EXTRA CURRICULAR ACTIVITIES

- Product Developer at [Wheels On Roll](#) - a college startup by 2nd years which is a cycle rental service and aims to automate this rental service.
- Executive Member at IEEE NITK Student Chapter
- Member of Team Jarvis which is the robotics club of college.
- Executive member of Tronix Committee of the annual TechFest of NITK.
- Volunteered for Avanti Fellows. (Provide JEE coaching to underprivileged students).