



Nimish Mehta
Mechanical Engineering
Indian Institute of Technology, Bombay

09010012
UG Third Year (B.Tech.)
Male
DOB: 07/02/1991

| Examination | University | Institute | Year | CPI / % |
|-----------------|------------|------------|------|---------|
| Graduation | IIT Bombay | IIT Bombay | 2012 | 8.32 |
| Intermediate/+2 | MPBSE | MPBSE | 2008 | 84.44 |
| Matriculation | MPBSE | MPBSE | 2006 | 89.00 |

ACHIEVEMENTS

- **IIT-JEE (Joint Entrance Examination conducted by Govt.):** Qualified in 2009 and Secured **AIR -144** among the **397,000** candidates appeared.
- **AIEEE (All India Engineering Entrance Examination conducted by Govt. of India):** Qualified in 2009 and ranked among **top 0.09%** of the **1000,000** (approx.) candidates appeared.
- Awarded **Institute Special Mention for Technical Activities** in the year 2010.

RESEARCH INTEREST

- . Mechatronics . Automatic Guided Vehicle
- . Wireless Sensor Network

RESEARCH EXPERIENCE

- **Summer Internship at Reliance Power Plant Dahanu(DTPS)** *May'11-july'11*
Dry flue Gas Losses
 - o Study and analysed the basic principal of plant and parameters involved in flue gas losses.
 - o Evaluate the percentage loss due to dry flue gas using the real time data.
 - o Evaluate total efficiency of boiler unit using real time data.
 - o Monitoring the air-fuel ratio ,Excess air level accordingly determining the location of O₂ sensor, stack gas temperature control theoretically.

PROJECT ACTIVITIES

- **IIT Bombay Racing-BAJA SAE INDIA 2012**
Data Acquisition *Summer'11-Ongoing*
 - o Implemented an graphical interface for car speed, engine's Temperature, car acceleration and engine RPM.
 - o Implemented wireless transmission of all data from car daq board to end user (off-board).
 - o Real time plotting and filtering of wirelessly transmitted data via GUI
- **Book Keeping Robot** *Ongoing*
Enthuse (Initiative by Dean R&D), **Technovation**
An autonomous laser guided vehicle robot to replace the late night issued books of library from the entrance to their corresponding shelf. Robot is intergrated with tone detector sensor for receiving modulated laser beam and magnetometer for calibrating the orientation of robot. A barcode scanner is mounted on chassis for scanning accession number using assimilation of android app and ATmega 2560.
- **Air V Bending:**
Mentored by: Prof. P.P.Date, Department of ME,IIT Bombay *Autumn'11-Ongoing*
 - o Developed an ingenious method using accelerometer for calculating the spring back in bend sheet. An accuracy of one degree has been achieved using the low pass filtering.

- o Efforts are currently made for achieving an accuracy of 0.1 degree using three/four point calibration method.
- **Laser Pong:**
Mentored by : Prof. R.K. Singh, Department of ME,IIT Bombay Winter'10
 - o Laser Pong is a fast-moving, interactive, laser-based pong game playable on any flat surface. The system uses a digitally controlled laser projection platform with 2 DOF to control a pong ball onto any flat surface.
 - o Hand held paddles with embedded sensors for laser ball detection, tilt measurement using 2-axis accelerometer and zigbee modules for wireless feedback to CPU are given to each player. Exhibited in *Techfest'10*.
- **2D Profile plotting:**
Mentored by : Prof R. K. Singh, Department of ME,IIT Bombay Autumn'11
 - o Simple and cheapest prototype of a machine which by its closed loop control, can access any co-ordinate in a given 2-D plane. The real system can be applied to many manufacturing processes applications like making a Laser-Cut machine, Profile Drawing on the job, Benchmarking etc.
 - o Bidirectional motion was constraint using integration of optical encoders with microcontroller (AT mega 128) along with linear guides for smooth functioning of assembly.
- **Mini Unique Identification System – Course Project** Autumn'09
Guided by: Prof. Deepak Phatak, Department of CSE,IIT-Bombay
 Worked as a team member in the consolidation part of UID project. Work involves the date-wise generation of folder using C++ which contains the enrollment files of the corresponding date.

PERSONAL PROJECT

NEXUS-Navigate

- Successfully built a autonomous grid follower bot capable of finding the distinctive blocks and transport them to the preliminary point.
- **Placed 1st in western zone at TECHFEST 2010.**

POSITIONS OF RESPONSIBILITY

- **Technical Secretary** of Hostel-7 of Strength 350 (2010-2011).
- **Core Group member** of **Technic, the IIT Bombay** Technical Club. (2010-11). Also **Technical Mentor** for around 8 students during the same period.

EXTRA CURRICULAR ACTIVITIES

- Awarded certificate of proficiency in C++ by **CE & QIP**, IIT- Bombay.
- Ranked 2nd in my district in MBD Talent search exam.
- Participated in many tech competitions: F 1 race, line follower, Mechanical Design Challenge, Nexus (TechFest), Solarsplash (TechFest), CityMap (Bits,Goa annual fest).

RELEVANT COURSES UNDERTAKEN

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|--|------------------------------------|
| . Computer Programming and Utilization | . Data Analysis and Interpretation |
| . Electrical & Electronic Circuits | . Electronic Devices |
| . Marketing Management | . Digital Electronics |
| . Electronic devices | . Control and communication |
| . Robotics | . Fluid Mechanics |

COMPUTER AND TECHNICAL PROFICIENCY

- **Operating Systems :** WINDOWS , LINUX
- **Programming/Scripting Languages:** Avr programming, C/C++, SQL, HTML, CSS, JavaScript.
- **Others:** Matlab, Scilab, Solidworks, LTSpice, Eagle, Latex, Google Sketch Up, AVR Atmel Family.