



Manmohan Mandhana
Electrical Engineering
Indian Institute of Technology Bombay

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UG Second Year
Male
DOB: 14/07/1994

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2014	8.97
Intermediate/+2	Maharashtra State Board	M.S.P. College	2012	94.67
Matriculation	Maharashtra State Board	Shantiniketan English School	2010	95.81

Pursuing Minor in **Computer Science and Engineering** and extra courses in **Physics** at IIT Bombay

SCHOLASTIC ACHIEVEMENTS

- 1) **Silver Medalist** at **6th International Olympiad of Astronomy and Astrophysics** held in Rio de Janeiro, Brazil in 2012
- 2) Secured **All India Rank 83th** among 4.5 Lakh student in IIT-JEE 2012
- 3) Ranked among the top 30 students selected for the Orientation cum Selection Camp for the **International Astronomy Olympiad - 2012**
- 4) Ranked among top 1% students in **National Standard Examination for Physics – 2012**
- 5) Ranked among top 1% students in **National Standard Examination for Chemistry – 2012**

TECHNICAL PROJECTS

- 1) **Remote Inspection Vehicle** [September 2012 - April 2013]
 - Fabricated a robot capable of doing ground surveillance in locations hazardous and inaccessible to humans.
 - Robot could maneuver in a stimulated environment of hazardous ruins of a nuclear power plant and complete a set of pick and place tasks in a specific time duration.
- 2) **Go-To Telescope** (Institute Technical Summer Project) [June 2013]
 - Developed an Android Application which uses Bluetooth to send the live readings of the Altitude and Azimuth the device is pointing to, to a base station.
 - The base station would receive the data and point the telescope to the same.
- 3) **Autonomously Navigating all Environment Quad-rotor** (Technovation) [August 2013 - till date]
 - Developing and fabricating a Quad-rotor capable of maneuvering autonomously avoiding obstacles and returning to the base station after surveillance of a specified Latitude- Longitude coordinate.
 - The quad-rotor has a detachable Kinect sensor attachment which can be used for 3-D mapping of a closed GPS denied environment.
 - The Kinect is also used for estimating the quad-rotor's position in the GPS denied environment using the RGB-D SLAM algorithm.
- 4) **Campus Connect Android Application** [September 2013 - till date]
 - Developing an Android Application to connect the entire Institute campus over intranet Wi-Fi.
 - This project is under Ruyintan and Monica Mehta Aakash Tablet Application Development Contest.
 - The planned features include Academic Forums, Messaging client, Voice calling, Chat-rooms, Interest based Groups and Online Notice Board.

PROJECTS

Pulsar Observatory for Students - 2013

[July 2013]

Guide: Dr. Bhal Chandra Joshi (NCRA, TIFR) and Dr. P. K. Manoharan (Head, Radio Astronomy Centre, Ooty)

- Observed the Radio Frequency signals from the Pulsar B0950+08 using the Ooty Radio Telescope, Radio Astronomy Centre, Ooty.
- Analyzed the data to find the Dispersive measure, Distance, Mean Flux Density and Modulation Index of the Pulsar.

TECHNICAL ACHIEVEMENTS

- 1) Awarded **Institute Technical Special Mention 2012-13** for the enthusiastic participation and key contribution towards promoting technical activities in the Institute
- 2) Secured 1st position in **Inter IIT Messier Marathon 1.0** held at GMRT, Pune in December 2012
- 3) Secured 1st position at Celesticon 2.0, an Astronomy Quiz held at Quark-2013, BITS Goa Campus
- 4) Secured 1st position in **Nationals of American Society for Mechanical Engineer's Student Design Competition** held at KL University, Vijayawada in 2013
- 5) Secured 2nd position in the **Line Follower competition** by Electronics Club in 2012
- 6) Awarded Best Overall in the Pick and Place Robot Competition 2012 by the Innovation Cell

SKILLS AND ABILITIES

- 1) Languages : C, C++, Java
- 2) Software Packages: Solidworks, WinAVR, Eclipse, Android SDK, Ngspice, Matlab, Scilab, GNUplot
- 3) Hardware : Atmel AVR family, Arduino Uno, 8051
- 4) Operating Systems : Windows and Linux

POSITION OF RESPONSIBILITY

- 1) Convener Krittika (Astronomy Club), IIT Bombay [July 2013- till date]
 - Planning and Management of Astronomy related Lectures, Quizzes and Night Sky Observation sessions
- 2) Mentored about 10 students in Robotics Competition, IIT Bombay [August 2013]

EXTRA-CURRICULAR ACTIVITIES

- Amateur star gazer
- Participated in State Level Taekwondo Championship held in Jalgaon, Maharashtra [2009]
- Volunteered for the **National Social Service** scheme [July 2012- April 2013]
- Interested in Photography, Sketching and Music