Pradip Gatkine **100100023**
Mechanical Engineering **UG Third Year (B.Tech.)**
Indian Institute of Technology, Bombay **Male**
Specialization: None **DOB: 09-02-1993**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.55
Intermediate/+2	Maharashtra State Board	Somalwar Jr. College, Nagpur	2010	89.50
Matriculation	Maharashtra State Board	Somalwar High School, Nagpur	2008	93.53

Academics

- Secured All India Rank 1131 in IIT- Joint Entrance Exam from among 4.5 lakh aspirants *2010*
- Secured All India Rank 23 in National Entrance Screening Test *2010*
- Secured All India Rank of 3763 and Maharashtra State Rank of 323 in AIEEE from among 11 lakh aspirants *2010*
- Qualified for Indian National Astronomy Olympiad Camp (Junior Level) and secured **5th position from all over India** *2008*
- Stood amongst **Nation wise top 1%** in National Standard Examination in Physics *2010*
- Stood amongst State wise top 1% in National Standard Examination in Astronomy *2010*
- Stood amongst State wise top 1% in National Standard Examination in Chemistry *2010*

Awards

- Guided a team for **NASA Space Settlement Design Contest 2011** and was awarded Specialty Honorable Mention in Life Sciences category *2011*
- Received Institute Technical Special Mention by IIT Bombay for year 2011-12.
- Received prestigious fellowship of **Kishore Vaigyanik Protsahan Yojna** (Young Scientist Incentive) awarded by Indian Institute of Science, Bangalore *2010*

Achievements

- Secured a State rank of 15 in High School Scholarship Exam by Govt. of Maharashtra *2005*
- Secured a State rank of 30 in Maharashtra Talent Search Examination *2006*
- Secured **All India Rank 25** in National Cyber Olympiad by Science Olympiad Foundation *2007*
- Qualified for Regional Level Project Presentation in National Children Science Congress *2007*
- Stood **1st in District Level Science Quiz** by National Children Science Congress *2007*

Projects Completed

- **Beam Steering Mechanism & Support structure for Radio Telescope** *Visiting Student Project (RRI, Summer 2012)*
  Guide: Prof. Ramesh Balasubramanyam, Raman Research Institute
  - Designed and manufactured a prototype for beam steering of a 15m x 2m Parabolic primary reflector of the new "Fan beam Telescope" being constructed at RRI, Bangalore.
  - Implemented an extension of Scissor lift mechanism for higher strength to weight ratio in a non conventional form of Radio Telescope support structure.
  - Designed a system for insulating a tracking mirror from 100 micron order undulations on guide rail using a passive adjustable compensation system.
- **Magnetohydrodynamic simulations in a Spherical Shell** *Astronomy Project(Winter 2011)*
  Guide: Dr. Aniket Sule, Homi Bhabha Centre for Science Eduacation
  Project as a part of National Initiative for Undergraduate Science (NIUS)
  - Studied the Spectral Method based simulation of time-evolution of **Astrophysical Magnetohydrodynamics** of a spherical shell in **Fortran** with focus on Solar Tachocline.
- **Radio Astronomy Winter School** *(winter 2011)*
  Conducted by National Centre for Radio Astrophysics
  - Performed **radio astronomy experiments and data analysis**, visited and learnt operations at IUCAA Girawali Observatory and Giant Meterwave Radio Telescope.
  - Presented poster on **Black holes and their signatures** , made a small radio telescope and also presented the observations and conclusions of experiment on **3m Radio Telescope.**

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- **Word Mole** *Course Project (Spring 2011)*
  Guide: Prof. R. K. Joshi *CSE Department, IIT Bombay*
  - Developed a single player word game based on the idea of scrabble
  - Designed the **game and interactive platform in C++** (Linux Environment) using FLTK graphics library
- **All Terrain Bot** *Electronics Club Summer Project(2011)*
  Guide: Electronics Club
  - Made a 4 wheeled bot designed for rugged terrain
  - Also made a motion sensing **wireless remote control** with information display on LCD screen using microcontroller, AT Mega 328.

Ongoing Projects

- **Autonomous Book Keeping Robot** *Technovation Project*
  Under Student Technical Activities Body, IITB *(Autumn 2012-till date)*
  - To be designed for collecting and depositing books from one place to other following the path generated by the onboard navigation algorithm.
  - Currently working on Local Positioning Unit using Radio Transceivers for position feedback.
- **Motor Controller Design for Electric Vehicle** ***I****IT Bombay's Racing Team (Autumn 2012)*
  - Designing a custom motor controller for PMDC motor to be used in 2nd version of India's 1st Electric Race vehicle EVo with 4quadrant control including regenerative braking for maximizing efficiency.

Technical Skills and Experiences

- Programming Skills: C++, Fortran, HTML, QBASIC
- Designing and Graphics Softwares: Solidworks, Eagle, Dreamweaver, Photoshop, Flash
- Analysis and Simulation Softwares: ANSYS, MATLAB, Mathematica, LT Spice

Positions of Responsibility

- Held the position of **Technical Secretary of the hostel**, who co-ordinates all the technical activities in the hostel. *2011-12*
- Worked as coordinator of NSS (National Service Scheme) IITB in Educational Outreach department. *2011-12*
- Worked as organizer in Mood Indigo 2010 (Cultural Festival of IITB) in Competitions and Creatives department. *2010*

Extra Curricular Achievements

- Secured 1st position **in semi-autonomous robotics** competition in Shaastra- The **technical festival** of IIT Madras. *2011*
- Received 2nd prize in **Microcontroller reverse coding competition** organized by Electronics Club at IIT Bombay *2010*
- Secured 1st position in **Image Processing competition** organized by Robotics Club at IITB *2010*
- Awarded **Certificate of Excellence** from NSS (National Service Scheme) at IIT Bombay *2011*

Courses Undertaken

Core Courses:	**Other Courses:**
(In Mechanical Engineering) Engineering Mechanics, Engineering Drawing, Mechanical Workshop, Engineering Metallurgy, Solid Mechanics, Thermodynamics, Strength of Materials, Numerical Analysis, Fluid Mechanics, Manufacturing Processes 1 **Currently pursuing:** Manufacturing Processes 2, Heat Transfer, Industrial Engg & Operational Research, Manufacturing Processes Lab, Fluid Lab	Digital Electronics (Minor), Economics, Calculus, Linear Algebra, Differential Equations, Modern Physics, Chemistry, Data Analysis and Interpretation, Introduction to Electrical Engineering, Physics Lab, Chemistry Lab, Experimental and Measurement Laboratory, Astrophysics, Strength of Materials Lab, Introduction to Quantum Mechanics (Minor), Quantum Information & Computing. **Currently pursuing:** Classical Mechanics, Radiating Systems,