Gagan Makhija
Mechanical Engineering
Indian Institute of Technology Bombay

120100057
UG Second Year
Male
DOB: 06-04-1994

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2014	9.33
Intermediate/+2	CBSE	Jawaharlal Nehru School, Bhopal	2012	91.40
Matriculation	CBSE	Jawaharlal Nehru School, Bhopal	2010	9.40

Academic Achievements

- All India Rank 200 in IIT-JEE 2012
- All India Rank 3 in Special Class Railway Apprentice exam conducted by UPSC
- Cleared RMO (Regional Mathematics Olympiad)
- Among the top 300 who cleared NSEP (National Standard Examination in Physics) and NSEC (National Standard Examination in Chemistry) and participated in Indian National Chemistry Olympiad in 2012
- Cleared Zonal Informatics Olympiad and participated in Indian National Olympiad in Informatics in 2012
- Among the 10 students who were awarded AP grade in Computer Programming and Utilization in a batch of 445 students
- Selected for the interview of KVPY(Kishore Vaigyanik Protsahan Yojana) in 2011
- Awarded high distinction in Australian National Chemistry Quiz in 2008 and 2009

Projects

IIT Bombay Racing | IIT Bombay [Aug'13-present]

Sub-system power train

- Working as Junior Design Engineer for the racing car to be presented in Formula Student 2014
- learning about overall drivetrain including gears, bearings, shafts etc. and also designing a few components using softwares like ANSYS, SolidWorks

MEMS | IIT Bombay [Dec'13-present]

Prof. Prakash Apte

- Working on a project of MEMS
- Using ANSYS for simulations to optimize the design of MEMS switch

Design Project | IIT Bombay [Aug'13-Nov'13]

Prof. Rajkumar Pant

- Designed a suitcase capable of being dragged along stairs considering the customer needs
- Learnt methods of systematic requirement capture & assigning priority to needs & features

Institute Technical Summer Project | IIT Bombay [May'13-Jun'13]

- Conceptualized and designed a two-wheeler bot with special turning style and self-balancing
- Learnt about micro controller, stepper motor, accelerometer and developed a code to control the bot

Matrix Calculator | IIT Bombay [Feb'13-Jun'13]

- Developed a code to perform various matrix operations in a user friendly way
- Added a log info feature which displays the date and time of previous usages

Robo-soccer | IIT Bombay [Feb'13-Mar'13]

- Built a bot for playing soccer against another bot in the competition
- The bot had a differential for motion along with a hitting mechanism

Technical Skills And Activities

- Worked with C/C++
- Knowledge of SolidWorks, MATLAB/Octave, JAVA, AutoCad, Micro-controller coding, Ansys
- Made a remote controlled car in the first year

Positions of Responsibility

Mentored for RF controlled car making competition | XLR8 [Jul'13-Aug'13]

- Guided freshmen in completing their RF controlled car
- Assisted freshmen in learning SolidWorks

Organizer of Techfest | IIT Bombay [Jan'13]

- Worked in Ozone department for arranging games for visitors
- Assisted in arranging MUN (Model United Nations) session

Extra-Curricular Activities

- Successfully completed one year of Yoga training under NSO at IIT Bombay
- Represented hostel in inter hostel coding General Championship 2013
- Attended the Jamboree Scout Camp at Delhi 2008
- Received special mention for extempore competition in freshmen year

Key Courses Undertaken

- Calculus
- Linear Algebra
- Modern Physics
- Computer Programming and Utilization
- Thermodynamics
- Engineering Metallurgy
- Introduction to Electrical and Electronic Circuits
- Strength of Materials*
- Fluid Mechanics*
- Numerical Analysis
- Data Interpretation and Analysis
- Ordinary Differential Equations
- Solid Mechanics
- Introduction to Design
- Discrete Structures (Minor)
- Economics
- Data Structures and Algorithms (Minor)*
- Manufacturing Processes I*
- MEMS – Design, Fabrication, characterization*

Courses marked * will be completed in May 2014.