**Aman Goel**                                    130050041
**Computer Science and Engineering**             **UG Third Year**
**Indian Institute of Technology, Bombay**       Male
**Specialization: None**                         **DOB: 19-11-1995**

| Examination | University | Institute | Year | CPI / % |
|---|---|---|---|---|
| Graduation | IIT Bombay | Indian Institute of Technology, Bombay | 2015 | 9.40 |
| Intermediate/+2 | CBSE | Dayanand Dinanath Education Center | 2013 | 93.6 |
| Matriculation | ICSE | Dr. Virendra Swarup Education Center | 2011 | 97.4 |

KEY SCHOLASTIC ACHIEVEMENTS

- Pursuing a **Major** in **Computer Science and Engineering** with **Honors** and **Minor** in **Applied Statistics and Informatics**
- **All India Rank 33** in JEE Advanced 2013 among 0.15 million candidates
- Obtained **100 percentile** in JEE Main 2013 among 1.5 million candidates
- Secured **All India Rank 105** in the merit list of Kishore Vaigyanik Protsahan Yojana 2013, a Govt. of India initiative
- Awarded **Institute Academic Award** (2013 - 2014) for being in the *top 10* in the institute in the academic year 2013 - 2014
- Awarded **AP grade** (given to *top 1%*) for *exceptional performance* in Linear Algebra, Calculus, Differential equations, Physical Chemistry and Engineering Graphics and Drawing courses at IIT Bombay

INTERNSHIP EXPERIENCE

**Swarming Robotics**                                    **May 2015 - July 2015**
*Guide : Prof. Sandor Fekete,* **TU Braunschweig, Germany**
- Worked on algorithmic aspects of several *geometric optimization problems* pertaining to robot navigation.
- Studied and implemented fast output sensitive algorithms for calculating convex hull of a set of points in a plane.

**Statistical Curve Fitting**                                    **December 2014**
*Guide : Prof. Debasis Kundu,* **IIT Kanpur**
- Studied iterative algorithms for *statistical curve fitting* with noise consideration and implemented the same in *MATLAB*.
- Also studied the impact of the type of noise distribution on the nature of curve.

ACADEMIC PROJECTS

**BodhiTree Multimedia TextBook**                                    **Ongoing**
- Working on the scalability and feature development of a large scale *Django* based *multimedia text book*, to be launched commercially worldwide soon.

**Client Server Messenger**                                    **Spring 2015**
- Used *socket programming* libraries of *C++* to design a simple server that could chat with upto 30 clients simultaneously.

**Computer - FPGA Communication System**                                    **Spring 2015**
- Programmed a *Universal Asynchronous Receiver Transmitter* in *VHDL*.
- Also developed a mobile - computer communication system in C++ for bit by bit data transfer as *Morse code* using mobile camera flash and computer webcam.

**JEE Seat Allocation Portal**                                    **Autumn 2014**
- Studied the *Gale Shapley algorithm* and implemented it in *Java* to solve a practical seat allocation based problem.
- Programmed an associated *Django* Web application for preference filling.

**Country Identification Module**                                    **Autumn 2014**
- Programmed a *sentence reading module* in *Python* to read and process pure English sentences and make statistically useful conclusions.

**Rube Goldberg Machine**        **Autumn 2014**

- Implemented the simulation of a *Rube Goldberg Machine* in *C++* using Box2D Physics Simulation Engine based on OpenGL.

**Game of Tetris**        **Spring 2014**

- Programmed the game of *Tetris* in *C++* using the cross-platform graphics library Fast Light Took Kit (FLTK).

**SELF PROJECTS (ANDROID)**

**Blog Android App**        **June 2015**

- Used the motivation of Udacity's android development course to design an android application for my blog for the convenience of readers.
- The app is capable of fetching the articles from the blog via an *HttpURLConnection* and caching in an SQLite database for offline viewing.

**My TimeTable App**        **July 2015**

- Created a *timetable management application* in android studio using the navigation drawer activity to display the app menu.
- Added features for adding and deleting classes and displaying daily classes.

**OTHER ACADEMIC ACHIEVEMENTS**

- *Certificate of Merit* and *Gold medal* in **Indian National Olympiads** in **Physics** and **Chemistry**, 2013 for being among the *top 40* in the country in both
- Among the *top 8* of the country who were selected to represent India at the $14^{th}$ **Asian Physics Olympiad**, 2013, Bogor, Indonesia
- Cleared National Standard Examinations in Physics and Chemistry, 2013, being in the *top 300* of the country in each of them
- Awarded **CBSE Certificate of Merit** in Physics for being among the *top 0.1%* in India in Central Board of Secondary Education - 2013
- Conferred with the title of **Amul Vidya Shree** for securing *97.4%* in ICSE 2011 and obtaining the highest aggregate in the school (city **rank 3**)
- Among the *top 20* to be shortlisted for the **Cargill Global Scholarship** 2015

**SKILLS AND INTERESTS**

- **C++**, **Java**, **Python**, HTML/CSS, JavaScript, Django, Android, LaTeX $2_\varepsilon$, Bash, MATLAB, GNU Octave, Prolog, PostgreSQL, MIPS, VHDL
- Competitive Programming, Cryptography and Security, Android/Web Development, Machine Learning, Teaching, Blogging, SpeedCubing

**EXTRA COURSES UNDERTAKEN**

- Network Security, Data and Systems Security, Introduction to Derivative Pricing, Introduction to Probability Theory
- Machine Learning (Coursera), JavaScript Basics (Udacity), Android Development for beginners (Udacity), Developing Android Apps (Udacity), Introduction to HTML and CSS (Udacity), Algorithms 1 (Coursera)

**POSITIONS OF RESPONSIBILITY**

- **Department Academic Mentor:** Among the 14 department academic mentors who are each responsible to guide 10 students of second year with academics
- Served as a **Teaching Assistant** for Computer Programming and Utilization, Calculus and Introduction to Electricity and Magnetism courses
- **Mentoring** thousands of JEE Advanced aspirants through my blog by writing useful articles on competitive exam preparation (approaching *a million* page hits)

**EXTRA CURRICULAR ACTIVITIES**

- Solved a **Rubik's Cube** in *20.769* seconds at TechFest Cube Mania and also served as a Convener of the Rubik's Club at IIT Bombay
- Designed an *autonomous line following bot* using sensors and micro-controller for a **Line Follower** event by Robotics Club, IIT Bombay and stood $4^{th}$ overall
- Represented school at the all India Computer Festival (ComFest) in the **cartoon film making** and **website development** events
- **Content development**: Helped *Plancess* and *Toppr* (growing educational startups) with their content development by making **LaTeX** based textual content