Abhinav Goyal

B.Tech. Second Year, Computer Science and Engineering
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Education

Indian Institute of Technology, Bombay — *2015-Present*
B.Tech. in Computer Science & Engineering — CPI: **9.64/10**
Pusuing Honors

Punjab School Education Board — *2015*
Senior Secondary Examination (Class 12th) — Marks: **96.9% (436/450)**

Central Board of Secondary Education — *2013*
AISSE (Class 10th) — CGPA: **10**

Interests

Data Structures and Algorithms, Theoretical Computer Science, Combinatorics, Cryptography, Graph Theory, Machine Learning, Competitive Coding

Scholastic Achievements

- **All India Rank 32** in JEE Advanced (IIT-JEE) 2015 out of more than 0.12 million students.
- **All India Rank 84** in JEE Mains (AIEEE) 2015 out of more than 1.3 million students.
- **Awarded Merit Scholarship** by Govt. of Punjab for achieving **14th Rank in 12th Class Board Examinations**

Projects

Feed'er: Android based Course Feedback App — *Autumn 2016*
Guide: Prof. Sharat Chandran — Software Systems Lab

- An all purpose academic feedback and reminder app for college students which uses a calendar like setup for displaying academic schedule and deadlines
- Connects to subscribed web servers and automatically syncs the academic schedule and updates it according to the instructions being posted on the server by the instructors
- Syncs various assignment/project deadlines and exam schedules and remind about them as per the user preferences and instructions by the instructors
- Students can fill various feedback forms floated by the instructors which along with the responses go back to the instructors anonymously and thus can help him improving the quality of a course

Django Based Web Application — *Autumn 2016*
Guide: Prof. Sharat Chandran — Software Systems Lab

- An app for the instructors which acts as a back-end tool to get students' response in various feedback requests added through the app itself
- Graphical and statistical analysis of the responses and ratings by the students
- Add/Change/Remove any assignment deadlines or exam schedules or add any feedback forms which is automatically notified to all the students
- Add information about any changes in lecture/lab schedule or about any additional lecture which is notified to the students and is updated in their time table accordingly

C++ Based Railway Enquiry Simulation App *Autumn 2015*

Guide: Prof. Varsha Apte Computer Programming and Utilization

- A command line app based on basic C++ programming which implements a model of Railway Enquiry & Booking System and user account management using an offline database
- Answers various user queries about the trains running between any two stations, their schedules, seat availability, booking price etc.
- Allows user to book a ticket and allocates a PNR number to it which can be used in future to get the status or to cancel a booking
- For users currently traveling in a train, it handles queries such as the expected time remaining for the journey to complete, next expected station and time remaining for it to arrive, order food etc.

Other Projects

- **Movie Recommendation Engine** (Implementation of Collaborative Filtering in Python which recommends movies to a user based on ratings from other critics and their similarity to the user)
- **Magnetic World Simulation** (Simulation of central forces and magnetic bodies following fundamental laws of Physics using Box2D library in C++)
- **2 Player Checkers** (Basic 2 player game of checkers using simplecpp library in C++)

Technical Skills

Computer Languages	Proficient in C++, Experienced in Python, Java, Bash, Familiar with C, Octave
Web Development	HTML, CSS, JavaScript, Bootstrap, Django
Tools	Experienced in Git, CMake, Makefile, Latex, Gnuplot, Android Studio, MatLab

Position of Responsibility

Teaching Assistant (2016)	Advanced Calculus (MA 105) under **Prof. Amiya Kumar Pani** Mathematics Department, **Indian Institute of Technology, Bombay**
Responsibilities:	• To conduct weekly tutorials for a batch of 45 students to help them with concepts of calculus • To clarify their doubts during and outside the tutorial sessions and make them practise problems to make sure they understand the concepts • To grade their exams and conduct tests for evaluation of their progress

Courses Undertaken

Computer Science	Data Structures & Algorithms + Lab*, Discreet Structures*, Software Systems Lab*, Data Analysis & Interpretation*, Computer Programming and Utilization, Abstractions & Paradigms + Lab, Digital Logic Design + Lab**, Design & Analysis of Algorithms**, Logic for Computer Science**, Computer Networks + Lab**
Mathematics	Calculus, Linear Algebra, Differential Equations
Others	Introduction to Electrical and Electronic Circuits*, Economics*, Biology, Quantum Physics and Application, Basics of Electricity and Magnetism, Organic & Inorganic Chemistry, Physical Chemistry Engineering Drawing, Chemistry Lab, Physics Lab, ME Workshop Practice

**to be completed by November 2016*

***to be completed by April 2017*

Extracurriculars

- Represented Hostel 5 in a Team of 4 in **Astronomy GC** and won **2nd prize**. (2016)
- Designed and electrified a Remote Control Plane during RC Plane Making Contest organized by Aeromodelling Club of IIT Bombay. (2015)
- Represented School in a **Tehsil level dance championship** and won **1st prize**. (2010)
- Won **1st prize** in **vocals and instrumental (guitar) GC** in school. (2012)
- Represented Hostel 5 as a part of music band in Sophie Music and stood 4th. (2016)