Abhinav Garg 120010038

Aerospace Engineering B.Tech.

Indian Institute of Technology Bombay Male

DOB: 03/09/1993

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2016	9.05
Intermediate/+2	Central Board of Secondary Education	Delhi Public School Bhopal	2012	95.80
Matriculation	Central Board of Secondary Education	Delhi Public School Bhopal	2010	9.80

Academic Achievements

- Ranked 2nd in the department, consistently among the top performers for the last 6 semesters
- Pursuing Honors in Aerospace Engineering
- Awarded AP grade in AE 214 (Thermodynamics) for exceptional performance in the course
- Awarded Merit Certificate by CBSE for being among the top 0.1% in Mathematics in All India Senior School Certificate Examination 2012, with a score of 100/100
- Awarded National Talent Search Examination (NTSE) Scholarship by National Council of Educational Research and Training
- Qualified all the phases of Kishore Vaigyanik Protsahan Yojana – 2012, run by Indian Institute of Science, Bangalore and funded by Department of Science and Technology, Government of India
- Attended Computing Camp at National University of Singapore on a full scholarship by Science Olympiad Foundation, India [December 2011]

Internships and Industrial Visits

- **General Electric** | GE Aviation – Thermal Systems Design Team [May-July 2015]
    - Worked on a research project for understanding jet impingement heat transfer with the help of computational methods
    - Went through existing literature and test data to understand relevant parameters
    - Ran CFD simulations to determine the suitability and applicability of various CFD methods and turbulence models for accurate prediction
    - Developed skills in using ANSYS ICEM CFD, ANSYS CFX and NX
- **Quetzal** [December 2014]
    - Made a parser based on Natural Language Processing which extracted meaningful information from a person's curriculum vitae and inserted it into a database
    - Was accredited the highest grade for excellent performance during the internship
- **ATS Complex**, Airports Authority of India, Mumbai Airport [26 September 2014]
    - As a part of the industrial visit, learnt about the systems that go into the control and guidance of air traffic at one of the busiest airports in the country
- **Function Space** | Software Developer Summer Intern [May –July 2014]
    - Was involved in both front end and back end development for the firm
    - Gained proficiency in Python, HTML, CSS, and JavaScript
- **Shopsense** | Hackers and Painters Winter Internship Programme [December 2013]
    - Worked on developing demo applications for the firm
    - Learnt and developed skills in Python, Adobe Photoshop, Qt and Microsoft Excel
    - Learnt and extensively used Github to manage code and collaborate

Positions of Responsibility

- Editorial Board Member, Insight, IIT Bombay [2015-16]
    - Part of the executive team of Insight – IIT Bombay's student media body
    - Involved in key ideation and leading of print and web articles (print issues distributed to 9000 students and 650 faculty members, and web readership of 3.7 lakh views per year)

- Institute Secretary of International Relations, IIT Bombay   [2014-15]
  - Worked directly with the International Relations Office at IIT Bombay towards activities for promoting internationalisation of the institute
  - Took concrete measures for increasing student outreach by delivering relevant information sessions and by inviting various international organisations for the same
  - Application volumes shot up as a result of the tenure, leading to a ~60% increase in the number of outgoing exchange students
- President, Student Council, Delhi Public School Bhopal   [2011-12]
- Vice-Head Boy, Student Council, Delhi Public School Bhopal   [2010-11]

Projects Undertaken

- **B.Tech. Project:** Dynamic Formations of Swarms   [July 2015-Present]
  Guide: Prof. Aditya Paranjape, IIT Bombay
  - Working towards the development of a distributed assignment algorithm and efficient motion planning for vehicular formations
- Theoretical Modelling of a Constricted Arc   [July 2015-Present]
  Guide: Prof. Kowsik Bodi, IIT Bombay
  - Working towards understanding and theoretically modelling a constricted arc – primary application areas being arc-jet thrusters and arc-heated wind tunnels
- Automatic Flight Control System | Institute Technical Summer Project   [Summer 2013]
  - As a part of a 3 member team, methodically built an RC aircraft and implemented an on-board autopilot wherein reference state was held through PID Control
- Course Projects:
  - Space Flight Dynamics (AE 338) – Trajectory analysis of Phoenix Mars Lander
  - Signals and Systems (EE 210) – Signals and Systems in Economics and Finance
  - Introduction to Engineering Design (AE 207) – Uphill Cycling Assister
  - Computer Programming and Utilization (CS 101) – Secure Database

Mentorship, Teaching Assistantship and Volunteer Work

- Institute Student Mentor at IIT Bombay   [2015-16]
  - Part of a 79 member team (selected from 351 applicants) to mentor freshmen
  - Helping 12 freshmen with respect to their various academic and non-academic issues
- Department Academic Mentor at IIT Bombay   [2014-15]
  - Mentored a group of 8 department sophomores
  - Attended mentor training organised by Tata Institute of Social Sciences
- Teaching Assistant for ME209x (Thermodynamics), a MOOC offered on edX by IIT Bombay   [2014]
- Mentor at Avanti Fellows   [2013-14]
- Buddy for visiting students under the Buddy Programme at IIT Bombay   [2013-14]

Software Skills

- Programming languages: C++, Python, JavaScript, Java
- Markup/style-sheet languages: HTML, CSS, Latex
- Software packages: ANSYS ICEM CFD, ANSYS CFX, NX, AutoCAD, MATLAB, Simulink, Eagle, Microsoft Office, Adobe Photoshop

Extracurricular Activities

Have explored various activities in sports, writing, public speaking, and music.

Highlights: 12.2 km endurance-swimming in 12 hours (Swimaton 2013), 1st prize in an institute-wide writing competition (WriteUp 3.0), Best Speaker Award in an inter-school debate (Shri Gurudev Gupta Inter-School Debate Competition, organized at Delhi Public School Bhopal in January 2012), and performances at various in-campus concerts (Acoustic Dusk) and competitions (member of the winning band in Freshiezza Phase 2).