



Harsh Manocha

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Education

- 2012-16** IIIT-Delhi | Bachelor of Technology (Computer Science Engineering) with **Honors**
 - CGPA: **9.2/10**
 - 9+ (A-/A/A+) grade-point in 31 courses, 10 (A/A+) in 18 courses (out of 41 courses)
 - '**A+**' in 5 courses: Data Structures and Algorithms, Advanced Programming, System Management, Introduction to Engineering Design, and Practice of Programming
- 2010-12** Salwan Public School, Rajinder Nagar (New Delhi) | CBSE AISSCE
 - **94.80** % (aggregate), **100** in Mathematics, **Second** topper in Science stream of school
- 2000-10** Salwan Public School, Rajinder Nagar (New Delhi) | CBSE AISSE
 - CGPA: 9.4/10 (aggregate)

Skills

- Languages** C, C++, Python, Java, Matlab, C#, SQL, HTML, JQuery, Ruby
- Tools and Technologies** OpenCV, Caffe, Git, Node.JS, Rails, Django, Bootstrap, Eclipse, gcc & g++, Android Studio, Visual Studio, Sublime Text, Wireshark, SQLite, MySQL, MongoDB, Xilinx, Apache, VMWare, Linux

Internships and other paid work

- Industry Internship** *Microsoft IDC, Hyderabad campus* (May,15 – July,15)
Guide: Vipindeep Vangala Team Size – 1
Software Dev intern at **Microsoft** India Development Center. Worked on Cortana. **Received PPO.**
- Teaching Assistant** *CSE101 (IP), CSE201 (AP), CSE 102 (DSA)* (Aug,14 – Dec,14)
Instructors: Dr. H.B. Acharya, Manish Shrotiya, Dr. Sandip Aine
TA for 3 courses – Intro to Programming, Advanced Programming, Data Structures & Algorithms. Took multiple lectures, lab sessions, and tutorials, and designed coding problems. Introduced automated checking. Received **Best TA Award** (only one to receive among BTech students)
- Research Internship** *Ubiquitous Computing* (May,14 – July,14)
Guide: Dr. Pushendra Singh Team Size – 8
A service was set up over which apps were built to access Wireless network occupancy. Number of people in each area and usage patterns could be determined. Worked on Django backend.
- Teaching Internship** *Programming Familiarization Module* (Apr,14/15 – Aug,14/15)
Guide: Dr. Pankaj Jalote Team Size - 4
Prepared a module for teaching programming to non-programmers (freshmen). Led a team of student-instructors and took 16 hours of classes and lab sessions.
- Summer Internship** *Building System Management course* (May,13 – July,13)
Guide: Dr. Amarjeet Singh Team Size – 6
Developed course-ware (course videos, website, quizzes) for 'System Management' online course.

Projects

- Unconstrained Crowd Face Detection and Recognition** (Jan,15 – May,16)
Guide: Dr. Mayank Vatsa Team Size – 2
As a part of Research BTech project, used **Deep Learning** based approaches (CNN) to detect and recognize faces in images/videos (ACVF) shot in unconstrained environment with high accuracy. System for automatic attendance. Obtained results slightly better than OpenFace (which is based on Google's FaceNet). *Paper to be submitted soon.*
- Automatic Code Generator** (Aug,15 – Nov,15)
Guide: Dr. Sandip Aine Team Size – 3
Developed a system which could automatically produce code for a new and unknown problem, when provided with instances of sample input-output test files. Used AI-based iterative deepening genetic programming.
- Automatic Essay Grading and detecting Subjectivity in News Article** (Jan,16 – Apr,16)
Guide: Dr. Sameep Mehta Team Size – 4

Finding keywords from essay using PageRank, assigning a score to the essay after retrieving relevant features, and finding subjectivity/bias in essay or news article. Used IR approaches.

Categorizing Facebook University Posts

(Jan,15 – Apr,15)

Guide: Dr. Richa Singh

Team Size – 2

After collecting database of Facebook posts of University pages using the Graph API, the system clustered the posts into a predefined set of categories using semi-supervised learning techniques. Languages/Tools: Python, scipy

Software Engineering (E-commerce system)

(Aug,14 – Dec, 14)

Guide: Manish Shrotiya

Team Size – 6

Built a SaaS application while following Agile development process. Practiced Service oriented Architecture (SOA), Test Driven Development (TDD), Pair Programming. Framework: Ruby on Rails

Flights of Angels (Android App)

(Aug,14 – Dec, 14)

Guide: Dr. Vinayak Naik

Team Size – 5

Built an Android App which created a peer-to-peer network, allowing users to create customizable polls and/or join and vote in nearby polls. App functioned even without Internet. Languages/Tools: Java, Android SDK

Business Card to Contacts (Image Analysis project)

(Aug,14 – Dec, 14)

Guide: Dr. Mayank Vatsa

Team Size - 2

The project aimed to extract, recognize and save contact information from image of a business card. The system could be trained for templates from multiple organizations. For a new card image, its organization was automatically determined and contact information extracted. Highest marks obtained. Languages/Tools: C#, EmguCV, Tesseract

Awards and Achievements

- Qualified for **Three ICPC Regionals: ACM ICPC 2012 (Amritapuri) & ACM ICPC 2014 (Amritapuri & Gwalior)** regionals (known as Olympics of Programming). On-site rank at Amritapuri'14: 71, & at Gwalior'14: 21
- Secured **25th Indian Rank & 50th Global Rank** out of 4262 participants in **Codechef November'13 Challenge**
- Won **first prize** in 'Select * from Brain' (DBMS event) and **third prize** in 'BrainSpark' (Puzzles event) in Sankalan'14 held by CS Dept. of Delhi University, and won **second prizes** in 'TeXpert' (overall core-CSE challenge), 'Code-A-Thon' (Coding competition in C/C++), and in 'Debug++' (Debugging Contest) in Sankalan'16 held by DUCS.
- Won **first prize** in Code in Less; Among **top 5 teams** for Toast to Code (Techathlon Finale), Esya'13
- FooBar contest: **1st rank** in ProSort[26, 22, 18, 15], **2nd** in ProSort[30, 27, 9], **3rd** in ProSort[20], 1.1 & 1.2
- Recipient of INSPIRE **scholarship** of ₹ 4 lacs for being in **top 1% of CBSE AISSCE** 2012.
- Won **first prize** in 'Best App Idea' and **second prize** in 'Programming' in Dynamix'11
- Received Gold Medals in:
 - 11th National Cyber Olympiad (NCO) 2011-12 securing **first rank internationally**.
 - (Bronze in) 10th NCO 2010-11 securing 99.61 percentile with 8th state rank and **25th international rank**.
 - International Informatics Olympiad (IIO) 2008-09, state rank: 9, **international rank: 38**
 - 8th NCO 2008-09 securing 99.60 percentile; state rank: 7; **national rank: 70 (Rank in final round: 28)**
 - International Mathematics Olympiad 2008: 99.16 percentile, city rank: 6, **world rank: 144**
 - 'Computer Skills' Olympiad 2006 held by Macmillan in India

Positions of Responsibility

- **Cultural Secretary** (2015-16), **Member, Cultural Committee** 2013-14 & 2014-15 (2013 – 2016)
- Esya (IIIT-D's annual **Tech-fest**): **Organizing Committee** member, Esya'14; **Mentor** to OC of Esya'15; **Organizer** of two Flagship events at Esya'13 (OC member twice, OT once) (Aug 2013, 14, 15)
- **Founder and Coordinator**, FooBar (**Programming Club** @ IIIT-D) for 2.5 years (Oct,13 – May,2016)
- **Member, Student Council** for 2 years. Also, the *admin of SC website* (2013 – 14; 15 – 16)
- **IT Committee Representative** 2013-14 (2013 – 2014)
- **Student Mentor**: Mentored 8 Juniors. Awarded by director for being in top 6 mentors. (Aug,14 – May,15)
- **Co-Organizer**, PR Head, Curator, Executive Producer: **TEDx IIITD 2015 and 2016** (Jan,15 – May,15)
- Member, **Placement Committee** (Jan,15 – Apr,16)
- **Convener, Cadence** (IIIT-Delhi's intra-cultural festival) (Nov,15 – Jan,16)
- Organizer, MUN IIITD 2016 (inaugural edition) (Feb,16 – Apr, 16)
- Organizer, Mr. and Miss Odyssey in Odyssey'14 (IIIT-D's cultural festival) (Nov,13 – Feb,14)
- Organizer, Research Showcase 2013 (Aug,13 – Sept,13)
- HackerRank Campus Ambassador and Codechef Campus Chapter Representative (2014 – 16)
- Mentor and Coordinator, Post Admission Induction (Aug,13/14/15)
- Marshal (2010-2011) and Captain (2008-2009) @ (Prefectorial Board) SPS (2008-9; 2010-11)
- Member, *Coalition for Nuclear Disarmament and Peace* and Editor of their magazine. (2008 – 2011)
- Coordinator of URI-CC (Social service club): Undertook social projects