Saurabh Jain **143050048**
Computer Science & Engineering **M.Tech.**
Indian Institute of Technology Bombay **Male**
Specialization: Computer Science **DOB: 29/12/1992**

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2016	7.97
Undergraduate Specialization: Computer Engineering				
Graduation	Devi Ahilya Vishwavidyalaya, Indore	Institute of Engineering and Technology-DAVV	2014	78.78
Intermediate/+2	CBSE	Ganesha Blessed Public School	2010	86.40
Matriculation	CBSE	Ganesha Blessed Public School	2008	81.60

Areas of Interest

Algorithms, Image Processing, Computer Vision, Artificial Intelligence.

Major Projects

- **Mouse Drawn Sketch Recognition for Electrical Circuits.** *May' 2015-present*
  M.Tech. Project, Adviser: Prof. Abhiram Ranade
  - Analysed and understood various techniques on Sketch-Object detection and recognition.
  - Improving the recognition accuracy of electrical circuit components in mouse-drawn sketches on DrawCAD (A program for recognizing mouse-drawn engineering drawing).
  - Future work is aimed at global beautification of circuit sketches and generalizing the recognition process to other domains.
- **Human Machine Interface through voice and gesture commands** *Autumn 2013*
  B.E. project, Adviser: Prof. Vaibhav Jain
  - Developed a User Interface in OpenCV and C# to play games and control mouse activities through hand gestures and voice commands using webcam and microphone.
- **VPL (Virtual Programming Lab)** *Spring 2013*
  B.E. project, Adviser: Prof. Vaibhav Jain
  - Developed a website using J2EE framework, featuring an online judge for auto-grading of lab assignments and managing lab sessions.

Course Projects

- **Improving The Inference Capability of DrawCAD** *Spring 2015*
  R&D Project, Adviser: Prof. Abhiram Ranade
  - Added Intelligent Inferencing to recognize various constraints and relationship between the strokes.
  - Made improvements in the user experience while drawing patterned and symmetrical sketches.
- **Mean Shift Tracker** *Spring 2015*
  Course Project (Computer Vision), Adviser: Prof. Ajit Rajwade
  - Implemented *Mean Shift tracking Algorithm* in MATLAB for real-time tracking of objects in videos.
- **Mobile Page Scanner** *Autumn 2014*
  Course Project (Digital Image Processing), Adviser: Prof. Ajit Rajwade & Prof. Suyash P. Awate
  - Implemented SIFT (Scale Invariant Feature Transform) from scratch in MATLAB and applied it to obtain the panoramic image by taking multiple images of a page from a mobile camera.
- **Part of Speech Tagger** *Autumn 2014*
  Course Project (Natural Language Processing), Adviser: Prof. Pushpak Bhattacharyra
  - Implemented POS Tagger using Hidden Markov Model and Neural Networks.
  - Achieved a cross-validation accuracy of upto 94.5% on Brown Corpus.
- **Analysing network performance through simulation** *Autumn 2014*
  Course Project (Software Lab), Adviser: Prof. Bhaskaran Raman
  - Analysed network data transfer logs using Bash, python, sed, lex/yacc, awk to do automated report creation using Pyplot and Latex.

Seminars and Workshop

- **Free Hand-Drawn Sketch-Image Searching and Segmentation** *Spring 2015*
  M.Tech. Seminar, Adviser: Prof. Abhiram Ranade
  - Studied Sketch-Image based search techniques for effective retrieval of images from a large database.
  - Studied Sketch Segmentation techniques to detect various shapes and objects within a sketch in real-time.
- **Verification in Concurrent Programming with Petri Nets Structural Techniques** *Spring 2015*
  Course Seminar (Formal Models for Concurrent and Asynchronous Systems), Adviser: Prof. S Akshay
  - Studied papers and delivered a talk on modelling Petrinet for concurrent programs using Adanets and analysing their behaviours.
- **CODE CAMP 2014** *May' 2014*
  *3 Days workshop on **Competitive Programming** with Codechef Campus Chapter: IET-DAVV, Indore*
  - Delivered a talk on strategies for Competitive programming to 30+ undergraduate students.
  - Explained the use of various Data Structures like maps, sets, vectors, queues etc, using STL in C++ .

Skills

Programming Languages	C++, C, Java
Scripting Languages	Python, Bash
Databases	MySQL
Tools and Frameworks	Matlab, OpenCV, Octave, Eclipse, Microsoft Visual Studio, LaTeX

Achievements

- **Ranked 3rd** in Codeblitz Finale at Techfest, IIT Bombay. *2014-2015*
- Secured **All India Rank 91** amongst students 1,55,190 students in GATE Computer Science. *2014*
- Secured 1^{st} Position in Codestruck, Indore zonals organised by Techfest, IIT Bombay *2013-2014*
- Represented IET-DAVV, Indore at **ACM-ICPC** Amritapuri Regional Finals. *2013-2014*
- All India Rank $\mathbf{6^{th}}$ in Amdocs Codemania. *2013*
- 4^{th} Position in Code Quest organized by Google Developers Group Indore. *2013*
- 2^{nd} Position in Smart Coding at the IET-DAVV, Indore. *2012*
- Solved over 200 problems on *Codechef* and over 150 problems on *SPOJ*.
- Ranked under top 50 amongst 750+ participants in 5 different on-line programming contests.

Positions of responsibility

- **Web Secretary** for Hostel 14, IIT Bombay *Aug' 2015-present*
  - Keeping the hostel website updated regularly, aimed to benefit 600 hostel residents.
  - Coordinating with other council members in planning various events and improving hostel facilities.
- **Graduate Teaching Assistant**
  - System administrator for Computer Programming Lab (CS 101) *Autumn 2014 & Spring 2015.*
    - Ensured proper functioning of about 100 lab machines during lab hours.
  - Data Structure Lab (CS 213 + CS 293) *Autumn 2015*
    - Helping in understanding, coding and debugging of lab assignments for a class 40+ UG students.

Extra Curricular

- Participated in Inter Hostel Cricket GC representing Hostel 9, IIT Bombay. *2015*
- Participated in Cricmania Tournament, IIT Bombay. *2015*
- Member of Computer Society of India - IET Indore Chapter. *2011-2014*
- Volunteered CONSEG: International Conference on Software Engineering, organised by CSI. *2012*
- Received applauds for painting and sketching in school.

Courses Taken

Computer Vision, Probabilistic Models, Formal Models for Concurrent and Asynchronous Systems, Natural Language Processing, Digital Image Processing, Algorithms & Complexity, Artificial Intelligence, Applied Linear Algebra, Maths for Visual Computing.

Hobbies

Competitive Programming, Playing Badminton, Cricket and Computer games, painting and sketching.