

Shubham Agrawal

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EDUCATION

B.Tech, Computer Science and Technology
Indian Institute of Technology, Kanpur, expected May 2016

- CGPA(after 4 semesters): **8.6**
- Percentage (10+2): **89%**
- GPA(High School): **9.8**

SHOLASTIC ACHIEVE- MENTS

- Secured All India Rank **155** in **IIT-JEE** among 500,000 candidates.
- Secured All India Rank **105** in **AIEEE** among 1,000,000 candidates.
- Selected for the Indian National Astronomy Olympiad(**INAO**) among **top 30** students in India.
- Ranked **5** in Regional Mathematics Olympiad(**RMO**).
- Selected for **ACM-ICPC** 2013 regionals to be held in this December.
- Selected in **Top 1%** of INAO(2011,2012), InPHO(2011,2012)

COMPUTER SKILLS

Coding Languages: C, C++, Python, Perl, Java, Bash, HTML, Javascript, CSS, XML, MySQL
Other tools: Matlab, GNU Octave, Latex.
Operating Systems: Windows, Linux

PROJECTS

Planar Graph Visualisation Jan-Apr 2013 *Mentor: Rizwzn Hudda*
Studied basic Graph Theory and Algorithms along with various properties of Planar Graphs and heuristics of Graph drawing. Studied various methods to minimize crossings in Planar Graph Drawing for different type of data.

Content Based Email Classifier May-June 2013 *Mentor: Ayush Mittal*
Summer Project: Studied and Implemented various Supervised Machine Learning Algorithms like SVM, Forest Tree, Naive Bayes etc. to classify Emails into five pre-defined categories based on their content. We also analyze the working of various algorithms.

Data Compression Sept-Nov 2013 *Mentor: Prof. Sumit Ganguly*
Course Project: Main Aim of this project was to study the importance of Data Structures in various Data Compression techniques mainly "Lossless Data Compression" like "Huffman Encoding", "Shannon Encoding", "LZ77/LZW" etc. Implemented Huffman and LZ77 encoding.

OTHER ACTIVITIES

- Involved in discussion sessions based on algorithmic problems with **Prof. Suren-der Baswana** during last summers.
- Studied and involved in various online lecture series on Quantum Computing.
- Read some research papers on **Quantum Error Correction** and **Quantum Cryptography**.
- Got Appreciation Award for course project in Engineering Graphics course.
- Won in various Inter and Intra College **Astronomy Competitions**.

RELEVANT COURSES

- Data Structures and Algorithms
- Linear Algebra
- Complex Numbers
- Partial Differential Equation
- Computing Lab
- Real Analysis

POSITION OF RESPONSIBILI- TIES

- **Student Guide** - Mentored six freshmen in coordination with a team of professional counsellors.
- **Academic Mentor(Mathematics)** - Providing academic assistance to those students in Mathematics courses(Real Analysis, Linear Algebra).
- **Coordinator (Computing Events)** - Appointed as Coordinator of Computing Events in Techkriti,2014 (Annual Technical festival of IITK).