Shubham Jain

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Educational Qualifications

Year	Degree / Certificate	Institute	CPI / %
2013-2017 (Expected)	Bachelor of Technology, Computer Science and Engineering	Indian Institute of Technology Kanpur	CPI = 10.0/10.0 **Department Rank 1**
2013	Class XII (M. P. Board)	Shanti Niketan	92%
2011	Class X (CBSE)	Vatsalya Senior Sec. School	CGPA=9.8/10

Research Interest

Algorithms and Machine Learning

Achievements

Scholastic:

- Awarded **Academic Excellence Award** for the performance in the year (*2013-2014)*
- Secured an **All India Rank** (AIR) of **210** in IIT-JEE (**JEE ADVANCED**) among 150k aspirants *(2013)*
- Secured an **All India Rank** (AIR) of **92** in **JEE MAINS** among 1.4mn aspirants *(2013)*
- Secured **7**th rank in **MPPET** (State Engineering Entrance Examination) among 110k aspirants *(2013)*
- Selected in nation's top 1% in **National Standard Examination in Physics (NSEP) (Olympiad)** out of 40k students conducted by **HBCSE** *(2012-13)*

Programming:

- Secured 60th rank out of 250 teams in **ACM-ICPC Amritapuri Onsite Contest** *(2014-15)*
- Secured 72nd rank in **ACM-ICPC Amritapuri Regionals** rank among 1500 teams in the Online Round qualifying for the Onsite round *(2014)*

Research Projects

Minimum Spanning tree by Prims algorithms using various heaps: *6th May - 30th Jun'15*

- Implemented **Binary** and **Fibonacci** heap to be used as a part of the algorithm in **C** language
- Compared their running time on large random graphs, varying the number of vertices and the average number of edges using **G(n,p)** random graph model
- **Studied the research** paper "A Minimum Spanning Tree Algorithm with Inverse Ackermann Type Complexity" by Bernard Chazelle (Princeton University), which uses **Soft heap** to further optimize the time complexity

Developmental Projects

Project Sporada (Powering phones with sparse 2G connections): 3rd Inter-IIT Tech Meet *Jan'15-Feb'15*

- Made a Java stand-alone application through **Netbeans** framework and used various python modules like sphinx
- Built a system to make "relevant" or "popular" content available on phones (offline)
- Managed the regular updates of the server, storage available and user's search experience

Life's Speak: (Microsoft's Code.fun.do 24hrs competition) *30th Jan- 2nd Feb'15*

- Made a **C# Application** for which converts text, images(like quotes), pdf(only text pdf) to speech
- Created an audio stream and output speech using Microsoft's API
- Used API's which provides classes for Optical Character Recognition (**OCR**) that enables Windows Runtime apps to read and interpret text from images

Programming Club website: (Programming Club IIT Kanpur) *15th May '14 - 25th Jun'14*

- Made the front end of the website and added login, events tab, tutorial, project database (storing them on server side)
- Used **Curl (PHP)** for web scraping to make a database of top **Codechef** users from IITK
- Added technical tweets and Google Calendar to the site
- Used **Phpbb** forum, created logo and slideshow using **Javascript**

Making a Programming Language: (**ACA, IIT Kanpur)** *Dec'13 - Apr'13*

- Developed an interpreter for the moves of a robot like turn, shoot, shield etc using **Python 3.4**
- Used the turtle module of **Python** for graphics and also added sound effects using **PyGame** module

Relevant Courses

- Data Structures And Algorithms
- Algorithms II ^
- Machine Learning (Stanford) – Coursera
- Neural Networks for Machine Learning–Coursera ^
- Abstract Algebra
- Theory of Computation ^
- Fundamentals of Computing
- Computing Laboratory I
- Computing Laboratory II ^
- Introduction to Economics
- Discrete Mathematics
- Logic in Computer Science
- Analytical Calculus – A*
- Complex Variables – A*
- Linear Algebra and ODE – A*
- Probability and Statistics
- Introduction to Electronics
- Computer Organisation
- Operating Systems ^
- Introduction To Linux - edx

^ - Ongoing

Technical Skills

- **Languages:** C, C++, Python, Verilog
- **Web & App development:** HTML, CSS, JS, PHP, MYSQL, C#
- **Platforms:** Windows, Linux (Ubuntu, Debian, Fedora)
- **Frameworks:** Semantic UI, CodeIgniter
- **Other:** LaTeX, Visual Studio, Git, GNU Plot, VIM

Sports Achievements

Qualified the **belt test** conducted by U.P **Taekwondo** Association and currently a **yellow** belt *(2014)*

Extra Curricular Activities

- Frequent participant in various online competitive programming contests on platforms such as Codechef, Topcoder, Codeforces and SPOJ
- Participated in tennis events during **Josh** *(2015)*
- Participated in the Event **Chaos** (Programming in an absolutely new language) in **Techkriti** *(2014)*

Hobbies

Coding, playing tennis, reading on Quora, swimming