Shubham Jain

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Educational Qualifications

Year	Degree / Certificate	Institute	CPI / %
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

Achievements

Scholastic:

- Secured an **All India Rank (AIR)** of **210** in IIT-JEE 2013 (JEE ADVANCED) among 150,000 aspirants (99.9 percentile).
- Secured an **All India Rank (AIR)** of **92** in JEE MAINS 2013 among 1,400,000 aspirants (99.9 percentile).
- Secured **7th** rank in **MPPET** (State Engineering Entrance Examination) among 110,000 aspirants (99.9 percentile) .
- Selected in nation's top 1% in **National Standard Examination in Physics (NSEP) (Olympiad)** 2012-13 out of 40,000 students conducted by **HBCSE**.

*Programming***:**

- Qualified for **ACM ICPC (International Collegiate Programming Contest) Amritapuri Regionals** 2013 securing rank 72 among 1500 teams in the Online Round.
- Secured 60th rank out of 250 teams in **ACM-ICPC Amritapuri Onsite Contest** 2014-15 after clearing the Online Round.

Technical Skills

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

Research Projects

1. **Minimum Spanning tree by Prims algorithms using various heaps:**   6th May - 30th June 2015
   - Finding Minimum Spanning Tree (MST) for a undirected graphs using Prim's algorithm.
   - Implementing binary and fibonacci heap to be used as a part of the algorithm in C language .
   - Comparing 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.
   - Studying 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

1. **Programming Club website** :   15th May '14- 25th June'14

- Group project done under **Programming Club IIT Kanpur**.
- 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.
- Used **Twitter's API** to add tweets to the site and added Google Calendar .
- Used **Phpbb forum** and created logo and slideshow using **Javascript**.

2. **Making a Programming Language** :   Dec'13-Mar'13

- Group project done under **Association for Computing Activities (ACA), IIT Kanpur** during the second semester.
- Developed an interpreter for the moves of a robot like turn, shoot, shield etc using **Python3.4**
- Used the turtle module of Python for graphics and also added sound effects using **PyGame** module.

3. **Project Sporada : Powering Rural regions using phones with sparse 2G connections :**
                                    3rd Inter-IIT Tech Meet Jan 2015

- 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
- Managed the storage available on the phone
- Enhanced the user's search experience
- **The app won 3rd prize at 3rd Inter-IIT tech meet held at IIT Kharagpur.**

4. **Life's Speak**:   30Jan- 2Feb 2015

- Made a **C# Application** for **Microsoft's Code.fun.do** (24hrs competition) which converts txt , images(like quotes) , pdf(only text pdf) to speech .
- Used **Windows.Media.SpeechSynthesis APIs** to create an audio stream and output speech also known as text-to-speech (**TTS**).
- Used **WindowsPreview.Media.Ocr** namespace which provides classes for Optical Character Recognition (OCR) that enables Windows Runtime apps to read and interpret text from images.

Relevant Courses

- ESC101- Fundamentals of Computing
- MTH102- Linear Algebra and ODE - A*
- CS201- Discrete Mathematics
- CS202 - Logic in Computer Science
- CS251- Computing Laboratory I
- CS203- Abstract Algebra
- ECO101-Introduction to Economics
- CS330 – Operating Systems - ^
- CS345 – Algorithms II - ^
- Machine Learning (Stanford) – coursera - ^

- MTH101- Analytical Calculus – A*
- CS210 - Data Structures And Algorithms
- ESC201- Introduction to Electronics
- CS220- Computer Organisation
- MSO201- Probability and Statistics
- LFS101x.2- Introduction To Linux - edx
- CS252 - Compuing Laboratory II - ^
- CS340 - Theory of Computation - ^

                                    ^ - Ongoing

Extra Curricular Activities

- Frequent participant in various online competitive programming contests on platforms such as Codechef, Topcoder, Codeforces and SPOJ.

- Participated in the Event "Chaos" in Techkriti'14.
- Participated in tennis events during Josh'15.
- Qualified the 'belt test' conduted by U.P Taekwondo Association in 2014 and currently a yellow belt in Taekwondo.

Hobbies

Coding, playing tennis, reading on Quora, swimming.