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| **Education** |

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| **Degree / Certificate** | **Institution** | **CPI / Percentage** |
| B.T, Computer Science and Engineering (2015) | IIT Kanpur,India | 7.8 / 10.0\* |
| Class 12 : CBSE Board (2011) | KV 2 GCF, Jabalpur | 88.8% |
| Class 10 : CBSE Board (2009) | KV 2 GCF, Jabalpur | 91.6% |

\*after completion of 6 semesters

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| **Scholastic Achievements** |

* Achieved an **All India Rank (AIR) 210**in **IIT-JEE’11**in which nearly 5Lac students appeared.
* Secured **AIR 17 Rank (State Topper)**in **AIEEE’11** in which nearly 11Lac students appeared.
* Secured AIR 18 in 13th National Science Olympiad *(2010 – 11).*
* Secured AIR 54 in 12th National Science Olympiad *(2009 – 10).*
* Secured AIR 65 in 10th National Cyber Olympiad *(2010 – 11).*
* Secured International Rank 147 in 4th International Mathematics Olympiad *(2010 – 11).*
* Secured AIR 155 in 9th National Cyber Olympiad *(2009 – 10).*
* Secured AIR 558 in 10th National Science Olympiad *(2008 – 09).*
* Secured AIR 32 in KV JMO, class 10th *(2008-09).*

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| **Algorithmic Programming** |

* **ACM-ICPC** regionalist *2013*, Kanpur region.
* **ACM-ICPC** regionalist *2013,* Amritapuri region.
* My team secured overall 15th rank (1st from IIT Kanpur) in IOPC, Techkriti’14, IIT Kanpur.
* My team secured 2nd prize at XCEED’13 (optimization problem contest), organized by Kurukshetra’13, Anna University.
* My team came 2nd in Instant (Algorithmic programming contest), organized by Techkriti’13, IIT Kanpur.
* Best rating of **1385** in algorithm competitions at **Topcoder** (Handle: bhupkas).
* Best rating of **1710** in **codeforces** (Handle: bhupkas).
* World rank in top **600** at **Spoj** among more than 130, 000 registered users. (Handle: bhupkas).

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| **Internship** |

**Summer Intern Project at Samsung Research Institute , Noida** (May ’14 – July ‘14)

* Improvised Linux kernel 3.4.5 for **IPv6 android CTS test**.
* Analyzed the complete packet flow through linux kernel for RX and TX packets.
* Developed **Android application** to ping devices on IPv4 and IPv6 addresses using socket communications.
* Designed python script to parse and find C functions and add desired statements in a file.

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| **Projects** |

**Multiclass Object Classification** (Aug ‘14 - ongoing)

*Undergraduate project under Prof. Vinay Namboodiri, IIT Kanpur*

* Aim is to classify huge set of images into one of given thousand classes using **Machine Learning** techniques such as **Exemplar SVMs.**
* Image is represented as a vector containing maximum scores of each **Classifier Patch** in each dimension.

**Compiler for C#: Compiler Design** (Jan ’14 – April ‘14)

*Compilers course project under Prof. Subhajit Roy, IIT Kanpur*

* Built a C# compiler in C, which generates code for SPIM architecture.
* The final compiler had support for **basic data types, composite date** types like multi-dimensional arrays, **operators, statements, functions (pass by reference and value, recursion)**.
* Input programs passes through four analysis stages (**lexical analysis, syntax analysis, semantic analysis, and code generation**) to give assembly code for SPIM.

**Document Clustering for Hindi and English documents** (Jan ’14 – April ‘14)

*Artificial Intelligence course project under Prof. Amitabha Mukherjee, IIT Kanpur*

* Clustered Hindi and English documents into various groups using **k-means** clustering algorithm.
* The preprocessing was done by removing the stop words , stemming the similar words to a single word and then using then using the **Bag of Words** model for document representation.
* Similarity measures used for measuring the distance between documents are **Euclidean , Cosine , Pearson , Jaccard , Manhattan** and **Chebychev**.

**Extention of NachOS** (Aug ’13 – Nov’13)

*Operating System course project under Prof. Mainak Choudhary, IIT Kanpur*

* Implemented **syscalls** such as **fork**, **execv** , **join** , **sleep** on NachOS.
* Implemented **shared memory** along with semaphore support and virtual memory to run large programs.
* Implemented **page replacement algorithms** and **process scheduling algorithms** such as **random** , **FIFO** , **round-robbin** and **shortest job first.**

**Packet Sniffer** (Aug ’13 – Nov’13)

*Computer Networks course project under Prof. Dheeraj Sanghi, IIT Kanpur*

* Implemented a packet sniffer in C which works on LAN as well as Wifi.
* Based on parameters given , we can filter packets based on protocol type , length , interface type , destination.

**Smallest Enclosing Circle** (May ’13 – July ‘13)

*Summer project under Prof. Surender Baswana, IIT Kanpur*

* Implemented the existing **randomized algorithm** for finding the smallest enclosing circle of given points in a plane.
* Analyzed the algorithm experimentally, and proved the **average linear time complexity** of the algorithm experimentally.
* Designed **online applets** which shows how the algorithm works.

**8-bit programmable computer on FPGA** (Jan ’13 – April ‘13)

*Computer Architecture course project under Prof. Subhajit Roy, IIT Kanpur*

* Built 8-bit programmable **general purpose computer on FPGA** using Verilog as hardware description language.
* The computer could perform basic **arithmetic and logical** operations on 2 inputs.
* Using these instruction set , functions like **Fibonacci(n)** , **Factorial(n) ,** uptimer and downtimer were implemented.

**Jigsaw Puzzle** (Jan ’13 – April’13)

*Computing Laboratory under Prof. Arnab Bhattacharya, IIT Kanpur*

* Designed Jigsaw Puzzle, in which user can drag the pieces and put them in their correct places to win the game.
* Algorithm was implemented in python and the GUI was provided using Pygame.

**Card Game 29** (May’12 - July ‘12)

*Summer project under Programming Club, IIT Kanpur*

* Developed a computer version of the card game 29, which provides an interface to play the cards.
* A single user plays against **three computer players**.
* Used elementary **Artificial Intelligence algorithms** to design the moves of the computer players.
* Provided GUI using wxPython.

**Genetic Programming** (Jan’12 - April’12)

*Semester project under Association of Computing Activities, IIT Kanpur*

* Implemented a genetic algorithm to solve the **Brachhistochrone Problem**.
* Took random sample and genetically improve them, till we get an almost optimal solution.

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| **Technical Skills** | |
| **Programming Languages** | C, C++, Python |
| **Web** | HTML,CSS, JavaScript, PHP,mysql |
| **Platforms** | Windows, Linux , Android |
| **Tools** | Latex, Beamer, Make, Shell, GNU Octave, wxPython, PYgame |

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| **Relevant Courses** |

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| * Operating Systems * Computer Networks * Compilers * Theory of Computation * Randomized Algorithms * Artificial Intelligence * Design and Analysis of Algorithms | * Intro. to Computer Organization * Probability and Statistics * Discrete Mathematics * Data Structures and Algorithms * Introduction to Mathematical Logic * Fundamentals of Computing |

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| **Positions of Responsibility** |

* **Student Guide, Counseling Service**, IIT Kanpur for academic year 2012 – 13
  + Mentored 6 freshmen students and assisted them in getting familiar to the college environment.
  + Assisted in the successful organization of the orientation programme for the benefit of around 880 students in IIT Kanpur.
* **Senior Web Executive, Techkriti’13,**IIT Kanpur.
  + Contributed in designing and developing the main website for the Annual Technical Festival of IIT Kanpur, Techkriti’13.
* **Assistant Coordinator, Software Corner, Techkriti’13,**IIT Kanpur.
  + Managed various events under Software Corner.
  + Contributed in designing the problem statements for the events.

* **Pool Captain, Takneek’13.** 
  + Supervised scientific and technological events from Rajput pool, consisting of 3 hostels and ensured healthy participation.
* **Hall Captain, Takneek’12.**
* Supervised the hall level scientific and technological activities during Takneek’12 and led contingent of over 200 participants to victory with greatest margin ever recorded in IIT KANPUR technical fest.

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| **Extra-curricular Activities** |

* Won 3rd prize in design competition, HUL CODE, conducted by Hindustan Unilever Limited, where we designed products catering to the future needs of the customers.
* Participated in robotics events in Takneek’11, where the robot had to perform 3-d space manipulation and object recognition.
* Won 2nd prize in Weekend Programming Contest organized by Programming club, IIT Kanpur.