

EDUCATION	CURRENT	B. Tech, COMPUTER SCIENCE AND ENGINEERING, <b>Indian Institute of Technology</b> , Kanpur	<b>9.5/10.0</b>
	JULY 2011	12 <sup>th</sup> Board, CBSE Board, <b>The Emerald Heights International School</b> , Indore	<b>91.4%</b>
	JULY 2011	10 <sup>th</sup> Board, ICSE Board, <b>The Laurels School International</b> , Indore	<b>95.4%</b>
COURSES	Operating Systems, Computer and Internet Security, Networks, Compilers, Principles of Programming Languages, Computer Organization, Computing Lab I & II, Algorithms I & II		
SKILL SET	LANGUAGES	<b>JavaScript</b> (Expert), <b>Python</b> (Proficient), <b>C++</b> (Proficient), <b>C#</b> (Efficient), <b>C</b> (Proficient)	
	WEB DEV	<b>HTML5</b> , <b>CSS</b> , <b>SQL</b> and <b>NoSQL</b> , <b>AngularJS</b> , <b>Nodejs</b>	
	TOOLS	<b>Git</b> (Expert), <b>Shell Scripting</b> (Proficient), <b>Vim</b> (Expert), <b>LaTeX</b> (Proficient)	

## WORK EXPERIENCE

### Research Intern

MAY-JULY 2014

MICROSOFT RESEARCH INDIA, Bangalore

- Analysed the implementations of different distributed systems and databases architectures like **Google MapReduce**, **Google FileSystem**, **Google MillWheel**, **Yahoo! PNUTS**, **Amazon DynamoDB**, **Apache Kafka**, **Apache Spark**, **Apache Hadoop**, **Apache Storm**, **Microsoft Dryad**, and **Microsoft DryadLINQ** to understand the design decisions involved.
- Used **TPL Dataflow** and **Lightweight Tasks** to implement concurrent pipeline processing of messages in **CScale** to preserve processing order of partially ordered messages. Performed **performance testing**, **failure testing** of the existing infrastructure.

### Software Development Intern

MAY-JULY 2013

AURUS NETWORKS', Bangalore

- Ported the legacy flash based web player in **CourseHub** – Aurus Networks' MOOC offering – to a technology agnostic **HTML5/JavaScript** web player leading to a uniform cross-platform viewing experience.
- Developed a **XMPP** based **real-time chat service** using Jabber framework, for conversations during live lectures.

## COURSE PROJECTS

### Multi Factor Authentication in OpenVPN

MONSOON 2014-2015

MOZILLA WINTER OF SECURITY, Guillaume Destuynder and Professor Dheeraj Sanghi

[\[Wiki\]](#)

- One of the **eleven** projects to be selected as a part of Mozilla's Winter of Security Initiative 2014.
- The objective of the project is to implement true **arbitrary multi-factor authentication** support in **OpenVPN**; and to implement **session-support** for the additional factors. [\[https://wiki.mozilla.org/Security/Mentorships/MWoS/2014/OpenVPN\\_MFA\]](https://wiki.mozilla.org/Security/Mentorships/MWoS/2014/OpenVPN_MFA)

### JavaScript to MIPS Compiler

WINTER 2013-2014

COMPILERS, Professor Subhajit Roy

[\[GitHub\]](#)

- Implemented an end-to-end ECMAScript 5.1 compiler for the MIPS architecture with support for first class functions, anonymous functions, static types, type annotations, recursion and nested functions. [\[https://github.com/srijanshetty/javascript-compiler\]](https://github.com/srijanshetty/javascript-compiler)

### Hindi author attribution

WINTER 2013-2014

ARTIFICIAL INTELLIGENCE, Professor Amitabha Mukherjee

[\[GitHub\]](#)

- Presented a poster on Opinion Word Expansion and Target Extraction through Double Propagation, Guang Qin, Bing Liu, Jiajun Bu, Chun Chen that was nominated as the best poster by all students.
- Generated a Hindi literature corpus consisting of works by Tagore, Vibhuti Narayan, Premchand, Sarat Chattopadhyay and Dhamarvir Bharati.
- Clustered a sample set of multiple Hindi authors using K-means unsupervised clustering to achieve F-scores in the range of 90-97% for each author.
- Classified each author using Support Vector Machine using Radial Basis Kernel function and achieved an F-score of 90-95% for each author.
- Performed Multiple Discriminant Analysis on the data for a quantitative comparison with word collocations; there was no appreciable difference in the results with the F-scores increasing only marginally. [\[https://github.com/srijanshetty/author-attribution\]](https://github.com/srijanshetty/author-attribution)

### NachOS

MONSOON 2013-2014

OPERATING SYSTEMS, Professor Mainak Chaudhari

[\[GitHub\]](#)

- Extended the standard system call library of NachOS and implemented system calls pertaining to Fork, Exec, Join, Yield, Sleep and Exit. [\[https://github.com/srijanshetty/nachos-syscalls\]](https://github.com/srijanshetty/nachos-syscalls)
- Implemented process scheduling algorithms: UNIX Scheduling, First in First Out, Round Robin, Shortest Job First and Non-pre-emptive job scheduling to assess their relative performances. [\[https://github.com/srijanshetty/nachos-scheduling\]](https://github.com/srijanshetty/nachos-scheduling)
- Programmed page replacement algorithms: Random Page Allocation, First in First Out, Least Recently Used(LRU) and LRU Clock to evaluate relative performances under difference scenarios. [\[https://github.com/srijanshetty/nachos-final\]](https://github.com/srijanshetty/nachos-final)

### P2P File Sharing and Streaming and IP Spoofing

MONSOON 2013-2014

COMPUTER NETWORKS, Professor Dheeraj Sanghi

[\[GitHub\]](#)

- Conceived and implemented a peer-to-peer protocol for file and media transfer in Node.js to share data over any LAN. [\[https://github.com/srijanshetty/nodesock\]](https://github.com/srijanshetty/nodesock)
- Generated raw IP packets with spoofed IP addresses to exploit test machines with ARP Poisoning, Smurfing and SYN Flooding.

### Prolog Shortest Paths and Erlang Traffic Server

MONSOON 2013-2014

PRINCIPLES OF PROGRAMMING LANGUAGES, Professor Piyush Kurur

- Implemented shortest path algorithm in Prolog using Logic Programming on the Delhi Metro route.
- Implemented a simple traffic server in Erlang using message passing concurrency and tail call recursion.

### 8-bit General Purpose Computer on a FPGA

WINTER 2012-2013

COMPUTER ORGANIZATION, Professor Subhajit Roy

[\[GitHub\]](#)

- Designed and programmed a simple **Instruction set Architecture (ISA)** for a 8-bit General Purpose Computer with a **load-store** architecture on **Xilinx Spartan 3** FPGA using System Verilog. Demonstrated recursion, looping and conditionals on the Computer by using a simple assembly language.

- Developed a **python based web crawler** to crawl paper submission deadlines for a given paper using BeautifulSoup and urllib. [\[https://github.com/srijanshetty/crawler\]](https://github.com/srijanshetty/crawler)

## INDEPENDENT PROJECTS

### GNU/Linux Exploration, Programming Club, IIT Kanpur

[http://bit.ly/pclubLinux]

- Explored and documented the various facets of **GNU/Linux** like the file system, process management, memory management, shell interface etc to serve as a reference for the Student Community.

### OARS

[https://navya.github.io/oars]

- Scraped** the institute **academic records** to create a database of all courses offered by the institute to create an AngularJS based **course search** over the existing legacy course search.

### Get Your Personal Homepage (GYPH)

[http://gyph2.herokuapp.com]

- Eased the process of creating **minimalistic websites** for not-so-tech-savvy students by creating a WYSIWG website **editor**.

### ShuffleRun

[https://github.com/srijanshetty/ShuffleRun]

- Pitched ShuffleRun, a **music player** which selects tracks on the basis of the user's **running speed**; recieved honourable mention at **Yahoo! HackU 2013**.

### Projects on Github

**DS:** implementation of certain algorithms and data structures <https://github.com/srijanshetty/DS>  
**Notes:** notes on computing and social sciences. <https://github.com/srijanshetty/notes>  
**Dotfiles:** an opinionated work flow on Linux Systems. <https://github.com/srijanshetty/dotfiles>  
**Bash Scripts:** handy configurations and shortcuts for ZSH <https://github.com/srijanshetty/custom>

### Web Development

**Udghosh '13:** The annual sports-fest of IIT Kanpur. <http://udghosh.srijanshetty.in>  
**ALI, Antaragni '14:** Antaragni Leadership Initiative. <http://ali.srijanshetty.in>  
**Junoon '14:** Eastern Band Competition, Antaragni '14. <http://junoon.srijanshetty.in>

## SCHOLASTIC ACHIEVEMENTS, SCHOLARSHIPS AND CONFERENCES

2011-2014	Received an <b>A* grade</b> , for exceptional performance in <b>Systems and Network Security; Computer Networks; Computer Organization; Logic for Computer Science; Fundamentals of Computing; Introduction to Philosophy</b>
2012-2013	<b>Academic Excellence Award</b> , IIT Kanpur.
2011-2012	<b>Academic Excellence Award</b> , IIT Kanpur.
MAY 2011	Secured All India rank <b>1937</b> in Joint Entrance Exam (JEE)
JAN 2011	Kishore Vaigyanik Protsahan Yojana ( <b>KVPY</b> ) Fellowship
JAN 2010	Qualified <b>Regional Mathematics Olympiad (RMO)</b>
DEC 2009	<b>CSIR Programme on Youth for Leadership in Science</b> held at Advanced Materials Research Institute, Bhopal

## LEADERSHIP AND ARTISTIC SKILLS

Active blogger at [srijanshetty.quora.com](http://srijanshetty.quora.com)

[BLOG]

Hacker, Navya, FOSS Group IIT Kanpur

[https://github.com/navya]

- Promoted the **FOSS initiative** in campus by organizing **student lectures** and meet-ups.
- Built student-centric applications like **Course Search** and **Student Search**, to circumvent their legacy institute counterparts.

### Head, Major Events and Competitions, Antaragni '14

2014

- Orchestrated Roadtrip – the National Campaign of Antaragni '14, under which national prelims for Nukkad, Dance, Quiz and Synchronicity were held in Pune, Mumbai, Chennai, Bangalore, Chandigarh, Bhopal, Lucknow, Kolkata, and Kanpur.
- Negotiated with leading academies of Dance, Musicals, and Fine Arts to provide mentorships, and other non-monetary incentives to the outstanding cultural performers in Antaragni under the banner of **Dream On** campaign.
- Coordinated the conduction of **fifty competitions and nine major events** with a team comprising of over **thousand volunteers**. Initiated and organized Mr. & Ms. Fresher's competition and introduced Chreo Night in Antaragni's arsenal of competitions.
- Organized a **blood donation camp** for the residents of IIT Kanpur to promote awariness about road accidents. Mobilized information about **road safety** through infographics and questionnaires via Antaragni's nation wide social campaign **Zara Sambhal Ke**.

### Hospitality Coordinator, Antaragni '13

2013 – 2014

- Managed a team of **40 secretaries and 80 volunteers**, over a span of 8 months and ensured a flawless conduction of the festival.
- Chalked out the logistics of **hospitality and accommodation** of **1500 participants** with four other coordinators. Handled security arrangements during the four days of the Festival from 24<sup>th</sup> to 27<sup>th</sup> October.

Member, Gymkhana Review Committee

2013 – 2014

Editor-in-chief, Vox Populi, the campus newsletter.

2013 – 2014

Senator, Students' Senate, IITK Y11 batch.

2012 – 2013

## VOLUNTEER WORK

### Member, Institute Anti Ragging Committee

2014 – 2015

- Appointed as a member of the Institute Anti Ragging Committee, a **10 member committee** responsible for welfare of the newly admitted freshmen.
- Worked in tandem with the office of the Dean of Student Affairs, to organize sessions on **easing the transition of freshmen**. Ensured institute norms regarding humane treatment of freshmen are properly conveyed to all senior batches and worked towards the enforcement of those norms.

### Tutor, English Proficiency Programme

2013 – 2014

Professor Bhaskar Das Gupta

- Worked as a **English tutor** in the pilot English Proficiency Programme to help **under-privileged students** obtain a functional knowlege of English.

Academic Mentor, Fundamentals of Computing, Professor Sumit Ganguly

2012 – 2013