

# SRIJAN R. SHETTY

Senior Undergraduate, Dept of Computer Science and Engineering

✉ [srijan.shetty@gmail.com](mailto:srijan.shetty@gmail.com)  
📧 [@srijanshetty](https://srijanshetty.in)  
🌐 <https://srijanshetty.in>

SKILL SET	LANGUAGES	JavaScript (Expert), Python (Proficient), C++ (Proficient), C (Proficient), R (Intermediate)
	WEB DEV	HTML5, CSS, SQL and NoSQL, AngularJS, Nodejs
	TOOLS	Git (Expert), Shell Scripting (Proficient), Vim (Expert), LaTeX (Proficient)

## EDUCATION

CURRENT	B. Tech, COMPUTER SCIENCE AND ENGINEERING, Indian Institute of Technology, Kanpur	9.6/10.0
JULY 2011	12 <sup>th</sup> Board, CBSE Board, The Emerald Heights International School, Indore	91.4%
JULY 2009	10 <sup>th</sup> Board, ICSE Board, The Laurels School International, Indore	95.4%

### Multi Factor Authentication in OpenVPN

2014 - 2015

MOZILLA WINTER OF SECURITY, Guillaume Destuynder, Professor Dheeraj Sanghi

[\[Wiki\]](#)

- One of the **eleven** teams all over the **world** to be selected as a part of Mozilla's Winter of Security Initiative 2014.
- The objective of the project was to implement true **arbitrary multi-factor authentication** support in **OpenVPN**; and to implement **session-support** for the additional factors.
- The project presentation is archived at <https://air.mozilla.org/mwos-2014-openvpn-mfa/>.
- The wiki for the project is located at [https://wiki.mozilla.org/Security/Mentorships/MWoS/2014/OpenVPN\\_MFA](https://wiki.mozilla.org/Security/Mentorships/MWoS/2014/OpenVPN_MFA)

### 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 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 pre-serve 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.

## AWARDS AND ACHIEVEMENTS

MAY 2015	Achieved a rank of 53 in <a href="#">Kaggle's Bike Sharing Demand</a> Machine Learning Competition.
2011-2015	Students' <b>Gymkhana Leadership Award</b> , IIT Kanpur.
2011-2014	Received an <b>A* grade</b> , for exceptional performance in <b>Systems and Network Security</b> ; <b>Computer Networks</b> ; <b>Computer Organization</b> ; <b>Logic for Computer Science</b> ; <b>Fundamentals of Computing</b> ; <b>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</b> (RMO)
DEC 2009	<b>CSIR Programme on Youth for Leadership in Science</b> held at Advanced Materials Research Institute, Bhopal

## PROJECTS

### 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.

### Hindi author attribution

WINTER 2013-2014

ARTIFICIAL INTELLIGENCE, Professor Amitabha Mukherjee

[\[GitHub\]](#)

Monsoon semester: July to November

Winter Semester: January to April

- 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.

## 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.
- 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.
- Programmed page replacement algorithms: Random Page Allocation, First in First Out, Least Recently Used(LRU) and LRU Clock to evaluate relative performances under different scenarios.

## 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.

## VS-3, Electronic Voting

WINTER 2014-2015

Election Council, IIT Kanpur

[\[GitHub\]](#)

- Designed and created a new electronic voting system in consultation with the **Students' Senate** to facilitate smooth electronic voting in the campus.
- The voting system was subsequently used in Students' Gymkhana General Elections, Hall 8 HEC Elections, Hall 2 HEC Elections and Hall 4 HEC Elections.

## VANI - Voicing Archiving and Networking Information

SUMMER 2012-2013

Professor Manidra Agarwal, Professor T. V. Prabhakar

- Initiated the creation of VANI - an extensible community platform with applications for forums, wikis, search, lost and found and calendars.

## LEADERSHIP SKILLS

### Chief Election Officer, Election Council, IIT Kanpur

2014 - 2015

- Conducted General Elections, Student's Gymkhana 2014 and Girls Representative Elections, Students' Gymkhana 2014.
- Developed a new voting software from ground up to cater to the needs of IIT Kanpur.

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

2014 - 2015

- 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 awareness 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

---

<p><a href="#">Member, Institute Anti Ragging Committee</a></p> <ul style="list-style-type: none"> <li>Appointed as a member of the Institute Anti Ragging Committee, a <b>10 member committee</b> responsible for welfare of the newly admitted freshmen.</li> <li>Worked in tandem with the office of the Dean of Student Affairs, to organize sessions on <b>easing the transition of freshmen</b>. Ensured institute norms regarding humane treatment of freshmen are properly conveyed to all senior batches and worked towards the enforcement of those norms.</li> </ul>	2014 – 2015
<p><a href="#">Tutor, English Proficiency Programme</a></p> <p>Professor Bhaskar Das Gupta</p> <ul style="list-style-type: none"> <li>Worked as a <b>English tutor</b> in the pilot English Proficiency Programme to help <b>under-privileged students</b> obtain a functional knowledge of English.</li> </ul>	2013 – 2014
<p>Academic Mentor, Fundamentals of Computing, Professor Sumit Ganguly</p>	2012 – 2013

## EXTRA-CURRICULAR ACTIVITIES

---

Sporadic blogger at <a href="http://srijanshetty.in">srijanshetty.in</a>	<a href="#">[Blog]</a>
<p><a href="#">Hacker, Navya, FOSS Group IIT Kanpur</a></p> <ul style="list-style-type: none"> <li>Promoted the <b>FOSS initiative</b> in campus by organizing <b>student lectures</b> and meet-ups.</li> <li>Built student-centric applications like <b>Course Search</b> and <b>Student Search</b>, to circumvent their legacy institute counterparts.</li> </ul>	<a href="#">[Site]</a>
Active contributor to numerous open source projects	<a href="#">[GitHub]</a>