

SRIJAN R. SHETTY

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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 th Board, CBSE Board, The Emerald Heights International School, Indore	91.4%
JULY 2009	10 th Board, ICSE Board, The Laurels School International, Indore	95.4%

WORK EXPERIENCE

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

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 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

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>]

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>]

- 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.

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.

INDEPENDENT PROJECTS**GNU/Linux Exploration**

SUMMER 2012-2013

Programming Club, IIT Kanpur

[\[Wiki\]](#)

- 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.

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.

OARS[\[Site\]](#)

- 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.

GYPH[\[Site\]](#)

- GYPH or Get Your Personal Homepage, eases the process of creating minimalistic websites for students by providing a WYSIWYG website creator.**editor**.

ShuffleRun[\[GitHub\]](#)

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

SCHOLASTIC ACHIEVEMENTS, SCHOLARSHIPS AND CONFERENCES

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

LEADERSHIP AND ARTISTIC SKILLSActive blogger at srijanshetty.quora.com[\[Blog\]](#)

Hacker, Navya, FOSS Group IIT Kanpur

[\[Site\]](#)

- 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 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 24th to 27th 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 knowledge of English.

Academic Mentor, Fundamentals of Computing, Professor Sumit Ganguly

2012 – 2013