

Shivansh Rai

✉ shivansh@freebsd.org | 🌐 shivrai.github.io | ☎ +91-7755047792

EDUCATION

IIT KANPUR BACHELOR OF SCIENCE IN MATHEMATICS AND SCIENTIFIC COMPUTING Expected May 2018 • Kanpur, India	
CLASS XII 2014 • CBSE Percentage: 88.6%	CLASS X 2012 • CBSE CPI: 10.0

SKILLS

PROGRAMMING LANGUAGES

C • C++ • Bash • Python • Java

WEB DEVELOPMENT

JavaScript • TypeScript • Angular2
Scala(with Akka) • Django • PHP

LIBRARIES AND TOOLS

Vim • Git • GDB • tcpdump
packetdrill • Elasticsearch • Docker

OPERATING SYSTEMS

Linux(Ubuntu) • Unix(FreeBSD)

COURSEWORK

Data Structures and Algorithms
Theory of Computation
Operating Systems (audit)
Computer Systems Security
Fundamentals of Computing
Computer Organisation
Multiagent Systems and Game Theory
Computational Methods
Mathematical Logic

INTERESTS

Operating Systems
Computer Networks
Computer Systems Security
Web Development
Formal Verification
Functional Programming

LINKS

Github	shivrai
Blog	shivrai.github.io
LinkedIn	shivansh-rai-16b451100

PROJECTS AND EXPERIENCE

GOOGLE SUMMER OF CODE 2017 github.com/shivrai/smoketestsuite
FREEBSD | MAY 2017 – ONGOING

- Working on building an infrastructure to automate generation of smoke tests for all the utilities in the FreeBSD base system
- Discovered and fixed **1 bug** in the implementation of the `ln(1)` utility in FreeBSD ([link](#))

GOOGLE SUMMER OF CODE 2016 github.com/shivrai/tcptestsuite
FREEBSD | MAY 2016 – AUGUST 2016

- Developed test scripts for regression testing of TCP/IP stack implementation in FreeBSD using **packetdrill**
- Discovered and reported **2 bugs** in the behavior of network stack implemented in FreeBSD
- Submitted patches for the code of packetdrill developed by Google
- Submitted patches for extending TCP support in FreeBSD

GOOGLE DEVFEST 2016 WINNER github.com/shivrai/cram

- Developed a **Django** based web-app which uses a k-means clustering algorithm to suggest courses for students to take in their next semester based on their previous coursework
- Performed data mining of over 4500 student's coursework from campus databases to extract relevant information

FULL STACK DEVELOPER

NEW YORK OFFICE, IIT KANPUR | SEPTEMBER 2015 – ONGOING

- Designed and developed features for frontend using **Angular2**
- Worked on adding features to backend in **Scala** using the **Reactive framework Akka HTTP**
- Made features using **ElasticSearch** in JavaScript for indexing and searching data

EXTRACURRICULAR ACTIVITIES

MENTOR | NEW YORK OFFICE SUMMER INTERNSHIPS
APR 2016 – JULY 2016

- Mentored **3 interns** in developing a JavaScript based Chrome Extension for stream item clipping and Angular2 based front-end for an online information management portal

MENTOR | PROGRAMMING CLUB, IIT KANPUR
MAY 2016 – JULY 2016

- Mentored **2 teams** of 4 and 6 students for the successful completion of their summer projects

AWARDS AND ACHIEVEMENTS

- Capture the Flag Codefest** 2016, IIT BHU: Ranked 44 out of 648 participants worldwide
- Takneek** 2015, IIT Kanpur: First runner up in Web-Dev, an annual web development competition. Developed an improved interface with modified query support for using Google Scholar ([link](#))
- Successfully cleared **National Schools Computer Science Competition (NSCSC)** 2010