Shivansh Rai

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EDUCATION

IIT KANPUR
Bachelor of Science in Mathematics and Scientific Computing
Expected May 2018 | Kanpur, India

CLASS XII	**CLASS X**
2014	CBSE	2012	CBSE
Percentage: 88.6%	**CPI: 10.0**

SKILLS

PROGRAMMING LANGUAGES
C • C++ • Bash • Python • Java

WEB DEVELOPMENT
JavaScript • TypeScript • Angular2
Scala(with Akka) • Django • PHP
Restful API

LIBRARIES AND TOOLS
Vim • Git • GDB • tcpdump
packetdrill • Key-Hoare • Frama-C
ElasticSearch • Docker • LaTeX

OPERATING SYSTEMS
Linux(Debian) • FreeBSD
Windows

COURSEWORK

Data Structures and Algorithms
Theory of Computation
Operating Systems **(audit)**
Computer Systems Security
Fundamentals of Computing
Computer Organisation
Multiagent Systems
Computational Methods
Mathematical Logic
Multivariable Calculus
Probability and Statistics

INTERESTS

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

LINKS

Github: **shivrai**
LinkedIn: **shivansh-rai-16b451100**

PROJECTS AND EXPERIENCE

GOOGLE SUMMER OF CODE 2017
FreeBSD | May 2017 – Ongoing
- Working on building an infrastructure which will automate generation of smoke tests for all the utilities in the FreeBSD base system
- Discovered and reported **2 bugs** in the behavior of ln(1) implemented in FreeBSD

GOOGLE SUMMER OF CODE 2016
FreeBSD | May 2016 – August 2016
- Developed test scripts for regression testing of TCP/IP stack 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

ONLINE INFORMATION MANAGEMENT PORTAL
Prof. Manindra Agrawal | 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 searching and indexing data

GOOGLE DEVFEST '16 WINNING TEAM MEMBER
- Developed a **Django** based 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

EXTRA CURRICULAR ACTIVITIES

MENTOR | NYC 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. Designed and developed an improved interface with modified query options for using Google Scholar
- Successfully cleared **National Schools Computer Science Competition (NSCSC)** 2010