

Ayush Bansal

SECOND YEAR UNDERGRADUATE · COMPUTER SCIENCE AND ENGINEERING

Indian Institute of Technology

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I am enthusiastic about **Systems** and learning new stuff about *Linux architecture, Programming languages, networking and security*. I have experience with cloud computing, ethical hacking and participate in **CTFs** in my free time. I want to pursue a career in research and do a significant contribution in the field of **Computer Science**.

Education

Year	Degree	Institution(Board)	CGPA/%
July'16 – Present	B.Tech, CSE	Indian Institute of Technology, Kanpur	8.5/10.0
2016	CBSE – XII	Saint Josephs School, Kota (CBSE)	95%
2014	CBSE – X	Saint Pauls School, Kota (CBSE)	94%

Honors & Awards

2016	All India Rank 187 , Joint Entrance Exam Advanced, 200,000 candidates	India
2016	All India Rank 571 , Joint Entrance Exam Mains, 1.5 million candidates	India
2016	All India Rank 52 , KVPY Scholarship, Indian Institute of Science	Bangalore, India
2015	Merit Certificate, National Top 1% , Indian National Chemistry Olympiad	India
2015	Merit Certificate, National Top 1% , Indian National Astronomy Olympiad	India

Work Experience

New York Office, IIT Kanpur

INFRASTRUCTURE MANAGEMENT, SUPERVISOR PROF. MANINDRA AGARWAL

IIT Kanpur

May 2017 - Present

- Worked on a scalable microservice based web application with an extensive technology stack.
- Deployed microservices utilizing Docker container, Coreos Container Linux, JenkinsCI, and have maintained the cluster on Kubernetes.
- Configured and deployed Persistent Volume Storage System.
- Technologies used: Kubernetes, Scala with Akka, Docker, Nginx, Coreos Applications, Rook with Cephfs, Heketi with Glusterfs.
- Summer Internship continued as a volunteer and peer mentor.

Projects

Implementation of Dynamic Multi-Level Paging

ADVISOR PROF. DEBADUTTA MISHRA

IIT Kanpur

Oct. 2017 - Present

- Improve performance by creating a better **Virtual Address** organization.
- Find wastage (internal fragmentation) in page-table pages by studying the page table usage of different applications.
- Results gathered from application's page-table usage are used to create a better page-table organization.

Ethical Hacking: Learnt Basic Exploits for participating in CTFs

PROGRAMMING CLUB

IIT Kanpur
Summer'2017

- Learnt exploitation techniques like buffer-overflow, integer-overflow, format strings and heap exploits.
- Used debuggers and knowledge of x86 Assembly language to exploit binary files.
- Performed various web attacks like sql-injection, XSS and CSRF.
- Learnt basics of Cryptography.

Linux From Scratch: Compiled Linux System from Source and Built a Package Manager

ASSOCIATION OF COMPUTING ACTIVITIES

IIT Kanpur
Feb. - Apr. 2017

- Created a **Customized Linux** based operating system by compiling all packages from scratch using the host machine's kernel.
- Built a **package manager** in python which fetched the dependencies of packages and created a dependency list based on packages installed.

Relevant Coursework

Introduction to Programming

Abstract Algebra (A*)

Programming Tools and Techniques (i)

Discrete Mathematics

Data Structures and Algorithms (i)

Logic in Computer Science

Computer Organization (i)

A*: Grade for Exceptional Performance i: In progress

Skills

Languages C/C++, Bash, Python, Scala, Golang, Javascript

Utilities Linux shell utilities, Git, Docker, Kubernetes, Akka with Scala, GDB, \LaTeX , Vim

Operating Systems Arch Linux, Ubuntu

Extracurricular Activity

Leader GOOGLE'S DEVELOPER STUDENTS CLUB, IIT KANPUR

Secretary PROGRAMMING CLUB, IIT KANPUR

July 2017 - Present

Apr. 2017 - Present