# Aniket Pandey

Third Year Undergraduate · Mathematics and Scientific Computing

🌐 aniketpandey.com | ✉ aniketp@freebsd.org | 🐙 aniketp | 📞 +91-959-988-1876

## EDUCATION

**IIT KANPUR, INDIA**
B.S in Mathematics and Scientific Computing
July 2016-2020 (expected)

**K.V R.K.PURAM, SEC-2**
AISSCE, CBSE, Overall: 94.0%
May 2016 | New Delhi, India

## RELEVANT COURSES

Operating Systems
Computer Networks
Data Structures & Algorithms
Computer Architecture (*i*)
Computer Systems Security (*i*)
Designing Verifiably Secure Systems
Introduction to Programming
Probability & Statistics
Introduction to Electronics
*(i : Ongoing Courses)*

## ACHIEVEMENTS

**AIR 1**: FIITJEE FTRE'13, **214/214**

**AIR 1**: KVS-JMO'14. Scored **92/100**

**AIR 244**: KVPY, Sponsered by IISc

**AIR 908**: JEE Advanced 2016

Qualified **RMO**'13 from Delhi region

Merit in Indian National Astrophysics Olympiad, **thrice**: INAO-14,15,16

Merit in Indian National Junior Science Olympiad: **INJSO**-2014

*(AIR : All India Rank)*

## RELEVANT SKILLS

### PROGRAMMING
Competent:
C • C++ • Python • Golang

Familiar
Bash • Javascript • Haskell

### OPERATING SYSTEMS
FreeBSD • Arch Linux • Ubuntu
Kali Linux • NetBSD • Gentoo

### WEB/FRAMEWORKS
Django • Full MEAN Stack
Full LAMP Stack • Codeigniter

### UTILITIES
Docker • DTrace • LaTeX • Vim
Git • GDB • Linux Shell Utilities
Kubernetes

## WORK EXPERIENCE

### GOOGLE SUMMER OF CODE'18 | Apr'18 - Aug'18
The FreeBSD Project | Mentor: Dr. Robert N. M. Watson
- Built a self-contained Regression Test-Suite for FreeBSD's Audit Subsystem with a cross-platform support for Darwin OS and x86, ARM, Sparc64, MIPS architectures.
- Contributed more than **500** test-cases for **180** OpenBSM auditable system calls.
- Developed an automation infrastructure for the Test-Suite, which synchronously polls on a clonable special device, /dev/auditpipe, to extract out relevant BSM tokens.
- Completed the proposed work in less than 1/3rd of total duration. Entire Test-Suite with **9000+ SLOC** count was pushed to 12-CURRENT production branch. (**LINK**)

### SECURITY ANALYST INTERN | Nov'17 - Jan'18
Lucideus Technologies | Project Manager: Saket Modi, CEO
- Developed and deployed a secure social networking platform in LAMP Stack.
- Assessed its vulnerability against OWASP top 10 attacks and improved the security.
- Extensively used VAPT tools like Metasploit, Wireshark, Xerosploit, Nessus, Maltego.
- Researched cryptographical model implementation in Network & Wireless Security, analysed WEP encryption weaknesses and exploited it using aircrack-ng tool suite.
- Reverse engineered Windows applications to mitigate common security flaws.

### FULL STACK DEVELOPER INTERN | Feb'18 - May'18
IIT Kanpur - NYC Office | Prof. Manindra Agarwal
- Worked on a scalable polyglot web application with an extensive technology stack.
- Implemented real-time status update feature in the attendance management system.
- Technologies used: DRF, Kubernetes, Elasticsearch, Concourse-CI, Spinnaker etc.

### SENIOR EXECUTIVE, WEB TEAM | Apr'17 - Mar'18
Stamatics Association, IIT Kanpur
- Developed and deployed the website of Stamatics in Angular (*stamatics.org*)
- Dockerized the site and maintained the backend with real-time databasing.

Antaragni 2018, IIT Kanpur
- Used the full MEAN Stack for a fest registration portal and its admin control panel
- Technologies Used - NodeJS, ExpressJS, Angular4, MongoDB (full Typescript).

## PROJECTS & ACTIVITIES

### FORMAL VERIFICATION OF INTEL'S SGX | Jul'18 - Nov'18
Course Project : Designing Verifiably Secure Systems
- Developed a password manager using Intel's Software Guard Extensions Enclave.
- Researched on modelling a formal verification of security features of the application.
- Implemented the Rjindael AES-128 bit enclave encryption in Galois/Counter Mode.

### RESEARCH TRACK EXPLORATION | May'18 - July'18
The University of Texas at Dallas | Prof. Latifur Khan
- Research project on the implementation of Cross-Domain Adaptive Framework for Multistream data classification (COMC) in asynchronous data stream mining.
- Worked on performance benchmarking of an Entity extraction and Geoparser tool, CLIFF-CLAVIN, in its ability to handle multiple concurrent requests. Performance analysis was carried out on Jetstream, a scalable cloud environment for XSEDE.

### AUTOMATED NOMINATIONS WEB-PORTAL | May'17 - July'17
Summer Project | Students' Gymkhana, IIT Kanpur
- Developed a scalable web application for nominations of Students' Gymkhana, IITK.
- Used Django along with Django-Rest-Framework and PostgreSQL database.
- Implemented dynamic heirarchy levels, search feature, django-filter and multiple model versioning in the backend API, extended it to include automated emailing.
- Selected among the **top 6** projects from all SnT clubs to give final presentation.