Aniket Pandey

Second Year Undergraduate • Mathematics and Scientific Computing

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EDUCATION

IIT KANPUR
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 (*i*)
Operating Architecture (*i*)
Computer Systems Security
Designing Verifiably Secure Systems
Data Structures & Algorithms (*i*)
Introduction to Programming
Probability & Statistics
Introduction to Electronics
Set theory & Mathematical Logic
Real Analysis & Complex Analysis
(i : Ongoing Courses)

SKILLS

PROGRAMMING
Proficient:
Python • C • C++ • Shell

Familiar:
PHP • SQL • Javascript • Lua
Java • Perl • Typescript • Haskell

OPERATING SYSTEMS
FreeBSD • Arch Linux • Ubuntu
Linux Mint • NetBSD

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

UTILITIES
Docker • MongoDB • LaTeX • Vim
Git • GDB • Linux Shell Utilities
ElasticSearch • Kubernetes

MISCELLANEOUS

Programming Club, IIT Kanpur

Organized an introductory lecture on Python and Web-Scraping for peer students.

Helped install various distos of Linux in students' laptops during Linux Install Fest.

Prepared recruitment test questions and introductory blogs for Freshers.

EXPERIENCE AND PROJECTS

GOOGLE SUMMER OF CODE | Apr'18 - Present
The FreeBSD Project | Mentor: Dr. Robert N. M. Watson

- Built a self-contained Regression Test-Suite for FreeBSD's Audit Subsystem.
- Contributed more than **500** test-cases for **165** OpenBSM auditable system calls.
- Developed an automation infrastructure using libbsm(3) APIs within the kernel which does a synchronous polling on /dev/auditpipe to extract out the BSM tokens.
- Was able to complete the entire project in less than 1/3rd of total duration. Major part of the Test-Suite already merged in the 12-CURRENT 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 exloited it using aircrack-ng tool suite.
- Reverse engineered Windows applications to mitigate common security flaws.

RESEARCH TRACK EXPLORATION | May'18 - Present
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.
- Working on performance benchmarking of an Entity extraction and Geoparser tool, CLIFF-CLAVIN, in its ability to handle multiple concurrent requests. Performance analysis would be carried out on Jetstream, a scalable cloud environment for XSEDE.

STUDENTS' GYMKHANA, IIT KANPUR | May'17 - July'17
Full Stack Development | Automated Nominations Portal

- 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.

SENIOR EXECUTIVE, WEB TEAM | Apr'17 - Mar'18
Departmental Association, Mathematics and Statistics

- Developed and deployed the website of Stamatics in Angular (*stamatics.org*)
- Dockerized the site and maintained the backend with real-time databasing.

Antaragni'17 & Techkriti'18, 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)

COMPUTATIONAL COMPLEXITY THEORY | Feb'17 - May'17
Association of Computing Activities | Prof. Rajat Mittal

- Reading Project on Theory of Computation, Complexity Classes & Cryptography.
- Researched the fundamental working of Turing Machine and its properties
- Analyzed famous NP-Complete problems, e.g. Hamiltonian Path, Travelling Salesman

AWARDS AND ACHIEVEMENTS

2014	**AIR 1**	KVS Junior Mathematics Olympiad, with a record score of **92**/100
2012	**AIR 90**	NTSE Scholarship Examination, NCERT & Govt. of India
2014	**AIR 214**	KVPY-SA Fellowship Examination, IISc Bangalore
2016	**AIR 908**	JEE Advanced 2016, IIT-Guwahati
2013	**RMO**	Qualified Regional Mathematics Olympiad from Delhi Region
2014	**INJSO**	Amongst the top **36** merit students selected in Junior Science Olympiad
2015	**INAO-Sr**	Amongst the top **25** merit students selected in Astrophysics Olympiad.