NAMAN AGGARWAL

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 Github ◇ Linkedin ◇ Blogs

EDUCATION

Indraprastha Institute of Information and Technology, Delhi	CGPA 9.02
BTech CSE	till 6th semester
N.K. Bagrodia Public School, Delhi	2019 - 2021
CBSE (Senior Secondary)	90%

SKILLS

Programming languages	C/C++, Python, Java, SQL
Tools and Technologies	Linux, Git, Django, Docker, Kubernetes, Spark, Message Queues, Grpc, OOPS, Parallel Runtime, Wireshark, Geth, Tor
Expertise Area	Computer Networks, Operating Systems, Distributed systems, Blockchain, Cloud

EXPERIENCE

Internship, ORACLE Cloud May 2024 - July 2024

Tools: Java, Apache Spark, Apache Airflow, Delta tables, Grafana, Docker, OCI Object Storage, OCI Dataflow

- Developed a *spark* based application in *java* which monitors 100s of data ingestion jobs periodically for data completeness, timeouts and successful completions.
- Used *Delta tables* to fetch summaries for past job runs. Further *airflow* ensures monitoring job runs periodically.
- *Grafana* displays metrics as a time series graph, showing all metrics for jobs instantly saving hours of work.

Undergraduate Researcher, Network Security Lab, IIITD Jan 2023 - Apr 2024

Tools: Ethereum, Geth, Django, Ngrok, Shell Scripting, MySQL, Wireshark

- An e-voting system to prevent voter demographics revelation, partial vote count and ensures vote accountability.
- Tested for 1 million voters over cloud by self hosting miners and fork of *ethereum* to store votes.
- Designed a tunnel based connectivity approach for miner anonymity using *ngrok*. Working on potential network threats.

Teaching Assistant, Advanced Programming, July 2023 - Dec 2023

- Designed tutorials and a gamified course project in *java* using *libgdx* along with helping students in coursework.

PROJECTS

IRC Chat Server   Authentication feature for a KDC based IRC chat server using Needham Schroeder. It is a multi threaded server developed in *C* along with leveraging *openSSL* for encrypting and signing messages.

Raft   Implemented in *Python* this implementation of consensus algo includes Leader election, Log replication, Fault tolerance. We further use *grpc* for efficient communication between nodes.

Runtimes   Implemented several runtime improvements on *raw Hclib* in *C* to increase efficiency of work stealing and power efficiency. These include solutions based on profiling, private deque, signal based stealing.

Linux Access Controls(ACL)   Simulated behaviour of *Linux ACL* by overriding existing access controls(DAC). Further wrote linux programs such as cd, fput, fget, sudo, get/setfacl to demonstrate working of new ACLs.

Linux Shell   Reproduced working of real world Linux shell with some common shell commands.

RELATED COURSEWORK

Computer Networks*, Operating Systems*, Network Systems Security*, Distributed Systems*, Advanced Programming*

* grade point of 10 in course

ACHIEVEMENTS & RESPONSIBILITIES

- Technicals team at OWASP, Coordinator of Astronuts club IIITD, Academics Captain in high school