

## EDUCATION

| Year    | Degree      | Institution                            | GPA      |
|---------|-------------|--|----------|
| 2016-20 | B.Tech, CSE | Indian Institute of Technology, Kanpur | 9.2/10.0 |
| 2016    | XII (CBSE)  | Central Academy                        | 94.6%    |

## WORK EXPERIENCE

## Nutanix

Bengaluru, India

Member of Technical Staff - III

Aug'22 - present

- **IAM as a Service:** Worked on developing a brand new Identity and Access Management (IAM) solution based on a micro-service architecture. Made multiple improvements to performance and scalability in order to handle hundreds of authorization requests per second.
- **V4 APIs:** Led the development of a new family of REST APIs, with support for versioning and features like filtering, sorting, pagination and selection through Odata.
- **Service Accounts:** Designed and implemented a new type of identity in IAM called service accounts. Added support for API key and certificate-based authentication, and integrated with various workflows across products. Also added attribute-based access control (ABAC).
- Helped **onboard** and **manage** several product engineers and interns. Led their training and development and later reviewed their code regularly to ensure code quality.

Member of Technical Staff - II

Aug'20 - Aug'22

- **Federated IAM:** Implemented the domain registration workflow in Nutanix Central (NC) using API keys. Also implemented federated login from NC on to registered domain IAM instances using OAuth token-exchange.
- **CAC/SAML:** Added support for user login via a Common Access Card (CAC) or certificate, with added revocation checking using protocols like CRL and OCSP. Also added support for login using SAML identity providers.
- **Minor Features:** Worked on several other minor features, and fixed/addressed a lot of bugs/support tickets. Also worked on documenting common workflows.
- **Skills and Technologies:** Proficient in Go and Python. Experienced in working with Envoy proxy, Crunchy Postgres, Redis, Prometheus, and Jaeger on Kubernetes. Also familiar with gRPC and gcloud services.

Intern, Member of Technical Staff

May'19 - Jul'19

- **Integration with KMS:** Modified an open-source key management server (external KMS) called PyKMIP and integrated it with the existing distributed secret store on AOS in order to help manage encryption keys.
- **CVE Scanning:** Created a tool to scan code repositories for CVEs (Common Vulnerabilities and Exposures), with added support for decompilation of binary files.

## RELEVANT COURSEWORK

|                              |                    |
|------------------------------|--------------------|
| Data Structures & Algorithms | Algorithms - II    |
| Compiler Design              | Operating Systems  |
| Database Management Systems  | Computer Networks  |
| Algorithmic Game Theory      | Linear Programming |
| Randomized Algorithms        | Computer Graphics  |

## SCHOLASTIC ACHIEVEMENTS

- **Academic Excellence Award**, IIT Kanpur 2016-18
- All India Rank **195**, IIT JEE **Advanced** 2016
- All India Rank **219**, IIT JEE **Mains** 2016
- Awardee, **KVPY** and **NTSE** Scholarships 2012-14

## TECHINICAL SKILLS

- **Programming:** Go, C++, Java, Python, bash, CUDA, PHP
- **Infra:** Kubernetes, Docker
- **Database:** PostgreSQL, Redis, Cassandra

## PROJECTS

## Compiler for Go

Compiler Design

Prof. Amey Karkare

Jan'19 - Apr'19

- Developed a **Golang to X86** compiler, up to AT&T format assembly, with all basic functionality as well as features like function overloading and auto type-inference.

## Quantum Query Complexity

Quantum Computing

Prof. Rajat Mittal

Jan'20 - June'20

- Applied different techniques to find the gap between a function's degree and its block multi-linear degree.

## Schelling Games

Game Theory

Prof. Sunil Simon

Sep'19 - June'20

- Worked on various game-theoretic models of Schelling segregation. Proved several hardness results and derived algorithms related to equilibrium existence.

## EVeN: Event Venue Notifier

Computing Laboratory

Prof. Nisheeth Srivastava

Aug'18 - Nov'18

- Created a web/mobile application that notifies users of events based on the time and their current location.

## GemOS: x86 Operating System

Operating Systems

Prof. Debadatta Mishra

Aug'18 - Nov'18

- Implemented virtual memory, paging, system calls and page fault/exception handling, signal handling, process management (clone and sleep), scheduling of processes, and a file system for GemOS.

## Code-based Cryptography

Summer Intern, ISI Kolkata

Dr. Anirban Ghatak

May'18 - Jul'18

- Worked on cryptanalysis of the GPT system, a code-based cryptosystem based on rank-metric codes.

## EXTRACURRICULAR

- Stood **1<sup>st</sup>** among over 50 teams in the on-campus **code.fun.do** organized by Microsoft.
- Mentored students and conducted institute-level classes as an **Academic Mentor** for mathematics.
- Performed as a vocalist for Music Club, IIT Kanpur.