Divyansh Nankani

Member of Technical Staff 1
Cost Governance - Nutanix Cloud
Nutanix Technologies India Pvt Ltd.

divyansh.nankani@gmail.com
(+91)8239334910
divyanshvn
divyanshnankani

Education

Indian Institute of Technology Bombay **2019 - 2023**
B.Tech. Honors, Computer Science and Engineering **GPA = 8.3/10**

Technical Skills

Programming Languages	Rust, C/C++, Python, Java, Bash, SQL
Software & Tools	Git, Linux Systems, NS-3, Lex, Yacc

Work Experience

Nutanix *July 2023 - Present*
Member of Technical Staff

- Cost Configuration Phase 2 - UDM (User Defined Metering)

  Re-Engineering the "User Defined Metering" (UDM) product enabling Service Providers to directly bill customers through VM granular rates options as part of a pair focussed team. Stack: Java, Postgres, Druid
  - Modified the **core logic of Cost Governance** with UDM and implemented Bulk purchases import feature.

- Cost Configuration Phase 1 - TCO (Total Cost of Ownership)

  Simplification and feature addition to "Total Cost of Ownership" product of Nutanix Cost Governance, leading to significant increase in adoption rate.
  - Onboarded quickly and implemented crucial backend APIs collaborating with multiple teams, earning an **Excellence Award**
  - Extensively used **Postgres**, **StatsD**, **Druid**, **Apache-Poi** & led setup of a new development environment for the team.

- ZMagic (**Hackathon winner** in the Data Services Category)

  Designing and Implementing a decision procedure on top of **Zettabyte File System** (ZFS) which accurately tells the magic number of any file at any moment in time without any significant cost (**O(1) in runtime**).
  - Designed a customised **state machine** and formulated a C script to generate **Automaton** for provided range of magic strings

Nutanix *May 2022 - July 2022*
Member of Technical Staff intern

- Implemented **share**, **schedule**, **download** feature for Analyze Cost Governance reports using **Java Spring Boot**
- Added Resource Group functionality to System Reports API involving manipulation of **Druid queries**

Silence Laboratories *Nov 2022 - May 2023*
Applied Cryptography intern

- Implemented a **state-of-the-art** Elliptic Curve Digital Signature Algorithm (**ECDSA**) in **Rust**, incorporating ephemeral help
- Benchmarked Performance of remote multi-party simulations via cloud deployment (**AWS** and **Fly.io**)
- Developed an **Android application** for the ephemeral helper using **Rust-wrapper for Android**

Research Experience

Protocol for Scaling Blockchains *Guide: Prof. Vinay Rebeiro*
- Developed a PoW blockchain protocol inspired from the past state-of-the-art work **Prism** and **Bitcoin-NG**
- Gained significant performance improvements (**reduced latency** and **increased throughput**) using a **multi-chain approach**
- Developed a robust **Fork resolution** system with integrated **resistance to selfish mining** exploits

Secure KNN over Cloud-based Data *Guide: Prof. Bernard Menezes*
- Reviewed and compared several **State-of-the-art techniques** for **secure KNN** query search in cloud based system
- Created design for KNN search schemes with increased security by incorporating the use of **SGX Enclave**

Post Quantum Cryptography Survey *Guide: Prof. Bernard Menezes*
- Performed an in-depth analysis of the Post-Quantum Digital Signature Algorithm **FALCON** involving **NTRU Lattices**
- Implemented a miniature version of FALCON Digital Signature Algorithm creating signatures of 16-bit messages

SCLP - Compiler for C-like Language *Guide : Prof. Uday Khedkar*
- Developed compiler for C like language, supporting **conditions**, loops, **scope levels & control sequences**.
- Created a **lexical analyzer** and a **parser** using lex and yacc, producing an **Abstract Syntax Tree**.
- Translated Abstract Syntax Tree to **Three Address Code** (TAC) along with semantic analysis, further translating it to **Register Transfer Language** (RTL) and finally to assembly code in **MIPS architecture**.