SMRITI

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EDUCATION

Master of Science | Georgia Institute of Technology, Atlanta

- Major: Computer Science – **High Performance Computing** (Graduated in December 2019)
- Related Coursework: High Performance Computer Architecture, High Performance Computing, Compiler Design & Optimizations, Advanced Operating Systems
- **GTA** for undergraduate courses: Automata and Complexity (Spring 2019), Design and Analysis of Algorithms (Fall 2019)

Bachelor of Technology | Indian Institute of Technology, Roorkee

- Major: Computer Science and Engineering (Graduated in May 2016, GPA: 8.14/10)
- Related Coursework: Parallel and Distributed Computing, Operating Systems

WORK EXPERIENCE

Summer Intern | Salesforce | May 2019 – August 2019

- Worked as a Software Development Intern at Salesforce Headquarters as part of the **Distributed Storage** team SDBStore.
- Developed an automation for troubleshooting error/alert scenarios that the team encounters.
- Created a dashboard for making the aggregate information available (relevant logs, metrics, servers involved) related to an error.
- Reduced troubleshooting effort and time significantly, promoting more efficient work by the team.

Software Engineer | Microsoft India Development Center | June 2016 – July 2018

- Worked in the **Azure Compute Systems** team. **Sole developer for AutoSQL** and related services.
- Automated server membership management feature for a Windows Failover Cluster and a SQL AlwaysOn ring.
- Added SQL support on Elastic VMs and reduced setup time for a server from 2 hours to 30 minutes. It led to huge gains for customers in terms of SLA and increased server and database availability.
- Designed and implemented functional testing infrastructure for automated testing of server upgrades, added central monitoring and alert system for all SQL stamps. It reduced customer issues by detecting failures early leading to quick fixes and cleaner rollouts.
- Member of Microsoft Garage – India. Learned Quantum Physics and Quantum Programming in Q#.

PROJECTS

Distributed Key-Value Store (Advanced OS Project)

- Implemented a distributed key-value store that provides the features of data distribution, replication and consistency. Tested the implementation for a variable number of client requests and data get/set scenarios for a variable read/write load distribution. The system is scalable, has a low latency, and performs well in times of high load (load balanced).

Detecting and Removing Infeasible Paths (Compilers Project)

- Implemented and improvised algorithm given in a research paper to detect infeasible paths using static analysis and removing those paths. It helps in removing extra code that never runs, reduces number of def-use pairs and promotes constant propagation and other optimization passes run by a compiler. The code runs as a pass in llvm and makes use of information from some existing llvm passes.

Pipelines and Caching (Computer Architecture Project)

- Implemented In-Order and Out-of-Order pipeline simulations for a processor. Extended the same to work for superscalar architecture.
- Implemented L1, L2 and L3 cache modules for memory optimizations and reported cache hit/miss stats for various sizes of L1, L2 cache. Studied “Utility Based Cache Partitioning” and added the functionality to cache implementation.

Quantum Computing (B.Tech. Project)

- Studied Quantum Computing and Genetic Algorithms, the Teleportation circuit in particular, its mathematical realization and synthesis using quantum tools. Implemented a generic algorithm for designing efficient Quantum circuits.

SKILLS & INTERESTS

- Languages & Interfaces: C++, C#, Java, Python, CUDA, MPI
- Online Certificates (Coursera): Programming Mobile Applications for Android Devices, Principles of Computing
- National Level Volleyball Player, NBA enthusiast
- Physics and Math lover – relativity, fractals, rocket science are some of my favorite topics of interest.