

# SHIVAM SAXENA

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## EDUCATION

**Georgia Institute of Technology | GPA 4.0/4.0**

*Master of Science in Computer Science, Computing Systems Specialization*

Atlanta, Georgia  
Expected May 2026

**Indian Institute of Technology Kharagpur | GPA 9.12/10**

*Bachelor of Technology in Electronics and Electrical Communication Engg.  
(with Minor in Computer Science and Engineering)*

Kharagpur, India  
May 2021

## EXPERIENCE

**Microsoft Corporation**

*Software Engineer II - Azure Managed Disks*

Bengaluru, India  
Jan 2023 - Jul 2024

- Contributed to fault tolerance and scalability efforts for high performance storage volumes leveraged by Azure virtual machines, maintaining **99.999%** availability and **50K** disks per subscription.
- Worked on incremental snapshots and migration capabilities to move live data across servers at **100+ MB/s**.
- Designed a library to update health and load factors of storage nodes using exponential moving averages.
- Employed weighted random distributions to generate and parallelize new copy assignments efficiently.

**Microsoft Corporation**

*Software Engineer - Azure Blob Management*

Bengaluru, India  
Jun 2021 - Dec 2022

- Worked on Blob Inventory feature, using a producer-consumer architecture to aggregate filesystem metadata.
- Implemented Storage Actions service to perform batch operations, reducing customer expenses by upto **50%**.
- Designed a new bottom-up approach for quick deletion in hierarchical namespace accounts with **1B+** files.
- Remodeled API calls by leveraging **C++ and Postman**, adding resiliency and facilitating optimized recursion.

**Nucleodyne Systems**

*Software Engineering Intern*

SF Bay Area, California(Remote)  
Jul 2020 - Aug 2020

- Worked with various authentication mechanisms in Spring Framework for Java including **JDBC, LDAP, JWTs** etc. Devised role-based access control(RBAC) frameworks for REST apps using **OAuth 2.0**.
- Built an authorization engine with **Java Controllers** to secure web apps exposed to **BOLA** API vulnerability.

## PROJECTS

**Sharded Key/Value Storage Service**

*CS 7210 Distributed Computing*

Georgia Tech  
April 2025

- Developed a linearizable key/value storage system that partitions keys over a set of replica groups in **Java**.
- Employed **PAXOS** for consensus among replicas, handled cross-group transactions with **two-phase commit**.

**MapReduce Framework**

*CS 6210 Advanced Operating Systems*

Georgia Tech  
April 2025

- Implemented simplified version of MapReduce infrastructure for processing large datasets in **C++** with **gRPC**.
- Developed async master-worker communication, handling failures with **gRPC deadlines** and backup tasks.

**Runtime Security Enforcement with Behavior Control**

*Undergraduate Thesis | Partnership with Altos Data*

IIT Kharagpur  
Jan 2021 - Apr 2021

- Developed a **Linux kernel module** to achieve runtime security by monitoring and capturing syscalls.
- Controlled execution behavior via input/output control interfaces(**ioctl**) and kernel probe tracers(**kprobes**).
- Developed an in-memory state machine to monitor successive syscalls and improve decision-making.

## SKILLS

- Languages:** C,C++, Java, Python, Bash,Powershell, Go, SQL, P4, C#, JavaScript, R, MATLAB, Kotlin, React
- Tools/Frameworks:** Docker, Kubernetes, Spring, MongoDB, Azure,AWS, gRPC, Wireshark,Postman,Flask
- Coursework:** Distributed Computing, Advanced OS, Computer Networks, Network Security, Algorithms

## ACHIEVEMENTS

- Awarded **Best Outgoing Technology Man** 2020-21 among **150** boarders by RK Hall, IIT Kharagpur.
- Attained **206 Rank** and honorable mention at **ACM ICPC, Amritapuri Regionals 2018** across 1000+ teams.