

SHIVAM SAXENA

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EDUCATION

Georgia Institute of Technology

Master of Science in Computer Science, Computing Systems Specialization

Atlanta, Georgia

Expected Dec 2025

Indian Institute of Technology Kharagpur

Bachelor of Technology in Electronics and Electrical Communication Engg.

(with Minor in Computer Science and Engineering)

Kharagpur, India

May 2021

GPA 9.12/10

EXPERIENCE

Microsoft Corporation

Software Engineer - Azure Managed Disks (*promoted to SWE II in Mar 2024*)

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 **50+ 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

Runtime Enforcement with Behavior Control

Undergraduate Thesis

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.

Face detection on low powered devices

Summer Research Fellowship Intern

IISc Bengaluru

May 2019 - Jul 2019

- Implemented Viola-Jones algorithm for real-time face detection using Haar features in **OpenCV+MATLAB**.
- Employed a variant of **AdaBoost** learning algorithm, cascading classifiers to achieve accuracy up to **85%**.

IEEE Workshop on Image Processing

Technology Robotix Society

IIT Kharagpur

Dec 2017

- Learned image processing algorithms such as blob and edge detection, noise filters, histograms in **OpenCV**.
- Applied them to solve problems involving template matching, object tracking, and path finding via **A***, **RRT**.

SKILLS

- Languages:** C, C++, Java, Python, Bash, Powershell, SQL, C#, Latex, JavaScript, R, MATLAB/Octave, PHP
- Tools/Frameworks:** Docker, Kubernetes, Spring, WinDbg, Postman, MongoDB, Azure, AWS, eBPF, Flask
- Coursework:** Computer Networks, Network Security, Algorithms, Operating Systems, Object Oriented Sys.

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.