SHIVAM SAXENA

📱 +1-404-808-9258 | ✉ ssaxena86@gatech.edu | 🔗 linkedin.com/in/shivam-saxena01

EDUCATION

Georgia Institute of Technology | GPA 4.0/4.0　　　　　　　　Atlanta, Georgia
Master of Science in Computer Science, Computing Systems Specialization　　*Expected May 2026*

Indian Institute of Technology Kharagpur | GPA 9.12/10　　　　　Kharagpur, India
Bachelor of Technology in Electronics and Electrical Communication Engg.　　*May 2021*
(with Minor in Computer Science and Engineering)

EXPERIENCE

Microsoft Corporation　　　　　　　　　　　　　　　　　　Bengaluru, India
Software Engineer II - Azure Managed Disks　　　　　　　　　　*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　　　　　　　　　　　　　　　　　　Bengaluru, India
Software Engineer - Azure Blob Management　　　　　　　　　　*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　　　　　　　　　　　　　　　　SF Bay Area, California(Remote)
Software Engineering Intern　　　　　　　　　　　　　　　　*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 Security Enforcement with Behavior Control　　　　　　　IIT Kharagpur
*Undergraduate Thesis | Partnership with **Altos Data***　　　　　　*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　　　　　　　　　　　IISc Bengaluru
Summer Research Fellowship Intern　　　　　　　　　　　　　*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　　　　　　　　　　　　IIT Kharagpur
Technology Robotix Society　　　　　　　　　　　　　　　　*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, Go, SQL, C#, LaTeX, JavaScript, R, MATLAB/Octave
- **Tools/Frameworks:** Docker, Kubernetes, Spring, MongoDB, Azure, AWS, eBPF, WinDbg, 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.