

SAGAR ABHYANKAR

Redmond, Washington

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EDUCATION

Master of Computer Science University of Illinois at Urbana-Champaign	Aug 2024 - Dec 2025 GPA: 4.0 / 4.0
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Bachelor of Engineering - Computer Engineering Pune Institute of Computer Technology	July 2020 - June 2024 CGPA: 9.38 / 10
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WORK EXPERIENCE

SpaceX Software Engineer (Full time, On-site)	Redmond, Washington Feb 2026 - Present
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- Starlink Telemetry, Tracking and Constellation Control under GNC Team.

INTERNSHIPS

Microsoft Software Engineering Intern	Redmond, Washington May 2025 - August 2025
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- Built **end-to-end data pipelines** using **Microsoft Fabric** to process **real-time Azure subscription and licensing data**, driving insights for the Microsoft Cloud licensing team.

Mastercard Software Development Intern - Security Operations Centre	Pune, Maharashtra, India May 2023 - Jul 2023
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- Developed a **Distributed Scalable Rapid Incident Response System** reducing the response time from **days to minutes**.
- Built an automated tool arsenal for analyzing Forensic Artefacts, **saving SOCIR dept. 2000+ hours yearly**
- Implemented with **Kubernetes, Docker** Apache Spark, Node.js and **bash**.

Bajaj Finserv Software Development Intern	Pune, Maharashtra, India March 2023 - May 2023
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- **Created a Cryptocurrency eco-system** called Bajaj Coin using **on premise linux nodes**.
- **Setup distributed private blockchain network** using go-ethereum, along with a compliance backup database.

Reverie Language Technologies AI Researcher	Bengaluru, Karnataka, India Aug 2023 - Mar 2024
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- **R&D** of real time **state-of-the-art noise cancellation** software using deep learning for Indic Languages.
- Curated Datasets, **trained large models with novel architectures**, the carried out **research won** at PICT's InC'24 **national hackathon**.

Vulnuris - A cyber security startup Lead Security Software Development Intern	Pune, Maharashtra, India Aug 2023 - Feb 2024
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- Developed and **Deployed** the flagship line-up of **cyber security products and services**.
- Includes tools such as Phishing Simulators, **Vulnerability Assessment and Penetration Testing**. **Configured on premise servers** for Tata Technologies.
- The product included cost efficient interfacing with **AWS EC2 and SES**

LANGUAGES, TOOLS AND FRAMEWORKS

- C/ C++, Python, Go, Javascript, Java, .NET, React, Linux, Git, Flutter, Next.js, AWS, Azure, Google Cloud Platform Docker, Kubernetes, MongoDB, MySQL, DynamoDB, PostgreSQL

PROJECTS

StreamDS A Spark like distributed streaming platform | [Q](#) link Aug 2024 - Jan 2025

- Built a Distributed system for CS 425 from scratch in Go using sockets, tested on a 10VM cluster.
- Implemented Data Sharding, SWIM protocol, Fault tolerance, Gossip Infection Mechanisms, Distributed File System with replication control, containerized streaming, and extensive unit testing.

Optimal Chunking Strategies for Document Embeddings | [Q](#) link May 2025

- Conducted systematic evaluation of chunking strategies for RAG systems across multiple embedding models (BGE, E5, MiniLM) and benchmark datasets (SQuAD, NQ, QuALITY).
- Implemented and compared fixed-size, semantic, and sentence-based chunking methods, demonstrating that fixed-size with 20% overlap consistently delivers top-2 performance while semantic chunking requires careful tuning.

Smart India Hackathon | Runner's Up | [Q](#) link Jul 2022 - August 2022

- Served as the team's technical head, developed server-less architecture using AWS lambda and AWS API gateway to upload the images capable of handling around 1000+ requests per second.
- Built a fully functional mobile application using flutter for image uploading life cycle and light weight image quality enhancer on the server which runs on canny edge detection with added customization.

Rusty Vault | [Q](#) link Jul 2023 - Aug 2023

- A highly secure, simple to use and fast local password manager desktop app written using Rust
- Uses sound cryptographic security fundamentals to safeguard against bruteforce attacks

Beluga Interpreter | [Q](#) link Jan 2023 - Feb 2023

- Designed an esoteric language to directly interpret and run turing machines with standard TM notation as syntax
- Written in pure C++, supports features for combining multiple infinite tape turing machines

RESEARCH EXPERIENCE

- Optimal Chunking Strategies for Document Vector Embeddings: A Focused Evaluation
- Exploring Speech Enhancement Models for Indic Language in Noisy Environments: A Benchmarking Study
- A Survey on Enhancing Deep Learning Based Speech Recognition Systems using Noise Suppression Techniques
- Performance Analysis of Reinforcement Learning Algorithms on mitigation of Forest Fires
- Integration of logical features with neural networks for controlled vs uncontrolled fire classification: a comparative study

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