

SAGAR ABHYANKAR

Redmond, Washington

 [Sagar Abhyankar](#) |  [Portfolio](#) |  [SagarA](#) |  sagarabhyankar18@gmail.com

EDUCATION

Master of Computer Science Aug 2024 - Dec 2025
University of Illinois at Urbana-Champaign GPA: 4.0 / 4.0

Bachelor of Engineering - Computer Engineering July 2020 - June 2024
Pune Institute of Computer Technology CGPA: 9.38 / 10

WORK EXPERIENCE

SpaceX Redmond, Washington
Software Engineer (Full time, On-site) Feb 2026 - **Present**

- **Starlink** Telemetry, Tracking and Constellation Control under GNC Team.

INTERNSHIPS

Microsoft Redmond, Washington
Software Engineering Intern May 2025 - August 2025

- 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 Pune, Maharashtra, India
Software Development Intern - Security Operations Centre May 2023 - Jul 2023

- 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 Pune, Maharashtra, India
Software Development Intern March 2023 - May 2023

- **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 Bengaluru, Karnataka, India
AI Researcher Aug 2023 - Mar 2024

- **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 Pune, Maharashtra, India
Lead Security Software Development Intern Aug 2023 - Feb 2024

- 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**

- **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  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 |  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 |  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 |  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 brute force attacks

Beluga Interpreter |  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**

Work Authorization - Authorized to work in the US/ US Citizen