

AARYAN SARASWAT

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Education

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY

DEC 2020 – JUN 2024

Bachelor of Technology in Computer Science Engineering / GPA: 9.30

New Delhi, Delhi

Experience

Compro Technologies

New Delhi, Delhi

Software Development Engineer

MAR 2024 - Present

- Developed **REST API** endpoints for assignment creation, improving management **efficiency by 20%**
- Autonomously built a **Retrieval-Augmented Generation (RAG)** tool that integrates **OpenAI's LLM** to retrieve responses from chunked PDF data stored in **Chroma vector DB**, handling a scale upto **100-120 QPS**.
- Implemented **JWT authentication** using **RSASHA256** for secure user validation via Manuca player
- Built a microservice to migrate **S3 data** using context switching and binary tree storage, integrating **DynamoDB GSI** to cut query latency from **600ms to 150ms**.
- Established a **CI/CD pipeline** with Docker, Actions, ECR, ECS, and S3, reducing **hotfix** deployment time by **75%**
- Migrated deployment from **AWS CodePipeline/CodeBuild** to **GitHub Actions**, cutting deployment time.

Coding Blocks

New Delhi, Delhi

Co-Mentor

SEP 2023 - Present

- Collaborated closely with mentors to facilitate interactive and engaging learning experiences for a diverse group of **360 students**.
- Empowered students** with foundational and advanced technical acumen, covering pivotal areas such as **Data Structures, Algorithms, and Full Stack Development**.

Projects

Arogya Locker | ReactJs, Ganache for Ethereum, Truffle, Solidity, MetaMask, IPFS

Live — Code

- Blockchain Based **Electronic Health Records Management System**.
- Deployed a scalable Ethereum blockchain network for **10K+ users**, integrating Ganache and MetaMask.
- Engineered granular user authentication methods using Ethereum mnemonic Addresses.
- Tailored interfaces for diverse users (Hospital-Admin, Doctor, Patient, Clinic), driving a **30%** engagement surge.

Linux Heap Memory Manager | Java, SpringBoot, C/C++, Linux

Code

- By leveraging the design of **Java's memory management** and **SpringBoot's auto-configuration**, the project replaces the `sbrk()` system call with `mmap()` system calls, reducing fragmentation by nearly **30%** through **virtual memory pages** from the kernel for memory protection.
- The implementation includes `XCALLOC` and `XFREE` APIs to facilitate the allocation and deallocation process, allowing seamless integration with any C/C++ program. It dumps **block level statistics** and **performs garbage collection** on-demand which reduces memory leaks by **100%**.

Achievements

- Meta Hacker Cup:** Achieved **Global Rank 1209** in Round 1 of 2024, qualifying for Round 2. In 2023, secured **India Rank 927** and **Global Rank 2433** in Round 2.
- Competitive Programmer with **1994(Candidate Master)** rating on Codeforces, **2039(5-STAR)** on Codechef and **2648** on Leetcode.
- Flipkart GRID 5.0 Semi Finalists:** Led our team to the semi-final round of Flipkart Grid 5.0 in the health+ track.
- Secured **2nd Position** in **Hacktiv8 Hackathon** held at JEMTEC, Greater Noida.
- Led **Nationals Team:** Secured 3rd position at **National Games Netball** Championship held at Bhavnagar, Gujarat.
- Attained Global Rank 16 in **CodechefStarter 129B**, 131 in **CodeForces DIV 4** and 129 in **TCS CodeVita**.
- Participated in **ICPC Regions 2021 Kanpur Region**.

Technical Skills

- Languages:** Java, JavaScript, C++, HTML, CSS, SQL.
- Frameworks/Libraries:** Springboot, Node.js, Express.js, React.js, Vue.js, Vuex, Handlebars.js, Bootstrap, Tailwind CSS, NPM libraries.
- Databases:** MongoDB, MySQL, DynamoDB, Oracle, NoSQL, Redis, PostgreSQL.
- Technologies:** Git, GitHub, Docker, Jenkins, Maven, CI/CD Pipeline, AWS (IAM, S3, EC2, CloudFront, ECS, ECR), Apache Kafka, SAAS, Software Development Life Cycle (SDLC), DSA, OS, OOPS, DBMS.