



# Sarthak Kumar

Roll No.:210122052

B.Tech - Chemical Science and Technology

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Github | LinkedIn | Portfolio

## EDUCATION

| Degree/Certificate | Institute/Board                          | CGPA/Percentage | Year         |
|--------------------|--|-----------------|--------------|
| B.Tech. Major      | Indian Institute of Technology, Guwahati | 7.17 (Current)  | 2021-Present |
| Senior Secondary   | CBSE Board                               | 92.6%           | 2020         |
| Secondary          | CBSE Board                               | 88.6%           | 2018         |

## EXPERIENCE

- Remarkskill** December 2024 - February 2025  
*SDE Intern* Remote
  - Migrated a legacy WordPress website to the **MERN stack (MongoDB, Express.js, React.js, Node.js)** with **Next.js**, significantly improving performance, scalability, and maintainability, while enhancing security and user experience.
  - Designed and built a secure **certificate verification portal** and user dashboard with real-time progress tracking, increasing user engagement and satisfaction by **25%** and reducing verification time by **30%**.
  - Rebuilt the frontend with **React/Next.js** and backend APIs using **Express.js** and **MongoDB**, reducing load times by approximately **40%** and deploying the solution using advanced **virtualization** and **cloud technologies**.
- Abhigyan Academy** April 2024 - July 2024  
*SDE Intern (Backend and Frontend)* Guwahati
  - Contributed significantly to developing a interactive full-stack web application using **React.js, Express.js, Node.js**, and **MongoDB**, resulting in a **40%** increase in user engagement and a **30%** improvement in average session duration.
  - Developed and implemented **8+ interactive pages** and efficiently optimized existing content, leading to approximately **50%** faster page load times and significantly improved **mobile responsiveness** across all devices.
  - Conducted comprehensive end-to-end backend testing using **Postman**, ensuring **API reliability** and **performance**.

## PROJECTS

- HealthCare Management System** November 2024 - December 2024  
*Team Project* GitHub
  - Developed a healthcare management application using **Next.js, TypeScript, TailwindCSS**, and **ShadCN**. It offers comprehensive features for patient registration, appointment scheduling, and medical appointment management.
  - Administrative features for scheduling, confirming, and canceling appointments, with **SMS notifications** via **Twilio**.
  - Integrated **secure file storage** with **Appwrite** for storage of medical and patient records maintaining privacy.
- IMAGE-AI** February 2025 - March 2025  
*Personal project* GitHub | Web-App
  - Utilized **OpenAI API** to enable image generation through personalized prompts. Users can share their creations in a community gallery, displaying images alongside creators' details and prompts, with a download option.
  - Built with **React** for a engaging and responsive front-end and **Express.js** for a robust back-end. Utilized **MongoDB** for scalable and secure data storage. Integrated **Cloudinary** for seamless media optimization and delivery.
- Custom Database Implementation (Go)** January 2025  
*Personal Project* GitHub
  - Developed a custom file-based database, capable of **CRUD operations** with JSON-formatted records, optimized with a **mutex mechanism** to ensure thread safety during concurrent access so that efficiency can be improved.
  - Implemented functions for writing, reading, and deleting records, **handling nested structures**, and efficient logging.
  - Database handles collections and resources efficiently, providing a flexible solution for various data storage needs.

## TECHNICAL SKILLS

**Programming Languages:** C/C++, JavaScript, SQL  
**CS Fundamentals:** DBMS, OOPs (Object-Oriented Programming), Operating Systems, Computer Networks, System Design, Relational Databases

**Web Technologies:** React.js, Node.js, Next.js, MongoDB, ShadCN, Zod  
**Miscellaneous:** Docker, Kafka, Cloud technologies(AWS), Postman

## KEY COURSES TAKEN

- Node.JS:** Backend Development with Node.js under Student Web's Committee(SWC) IITG
- HTML/CSS/JavaScript/React.JS:** Completed workshop under Student Web's Committee(SWC) IITG
- Computer Science:** Introduction to Computing, Computing Laboratory, Computational Chemistry

## ACHIEVEMENTS AND EXTRACURRICULAR

- CodeChef**, secured global rank **128** in Starters 145 Div 3. Maximum Rating: **1633**
- Codekaze Sept. 2023**, Achieved All-India Rank **283** out of **150,000** students in Round **2** of the competition.
- Undergraduate Senator**, Actively advocated for 5000+ UG students by identifying and addressing their issues.
- Branch Representative**, enhanced student-professor interaction, addressed issues, and guided peers effectively.
- RungMunch**, Achieved **1st** in inter-hostel roasting competition by showcasing quick wit and creativity.