Soham Khatavkar

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Education

National Institute of Technology Nagpur

B. Tech in Computer Science and Engineering - CGPA: 8.32/10.0

Indian Institute of Technology Bombay

M. Tech in Computer Science

Mumbai, Maharashtra

Projects

sIDE+ | MongoDB, ExpressJS, ReactJS, NodeJS, Azure VM, Docker, Gemini AI

Demo | Frontend | Backend

- Developed a full-featured **online code execution platform** supporting C, C++, Java, Python, and JavaScript.
- Integrated **Docker-based isolated execution environments** using Docker images (e.g., **GCC**, **OpenJDK**) with features like **execution time limits** and **automatic container cleanup**, to enhance security.
- Integrated features such as **auto-save**, **auto-completion**, **cloud-save**, **local-save**, and **code-share** with a rich code editor interface to enhance the user experience.
- Deployed on a scalable and reliable **Azure Virtual Machine**, enabling efficient remote code execution.
- Integrated **Gemini AI** for intelligent coding assistance, including **code reviews**, **bug detection**, and **debugging suggestions**.

Globe Trotters | MongoDB, ExpressJS, ReactJS, NodeJS, Cloudinary, Gemini AI Demo | Frontend | Backend

- Developed a vibrant travel blog platform enabling users to share experiences through multimedia blogs.
- Implemented secure user authentication using **JWT** and **bcrypt**, enhanced with Google **OAuth2** social login integration. Additionally, enabled efficient content retrieval through **MongoDB's full-text indexing**.
- Utilized **Cloudinary's Node.js SDK** for efficient upload, storage, and delivery of **images and videos**, ensuring optimized media performance across the platform.
- Leveraged **Gemini AI** to enhance both blog creation and reading experiences, offering features such as **smart suggestions**, **summarization**, and **contextual insights**, among others.

Setris $\mid C++$, Raylib, Make, CMake

Demo | GitHub

- Developed a custom implementation of **Tetris** in **C++**, enabling players to fully customize gameplay rules such as speed, block shapes, and drop behavior.
- Built with a fully modular architecture leveraging core **Object-Oriented Programming (OOP)** principles, enabling clean separation of concerns, enhanced code reusability, and ease of scalability and maintenance.
- Deployed a web demo by compiling the core C++ logic to WebAssembly using Emscripten, seamlessly integrating it into a ReactJS frontend for efficient and smooth in-browser execution.

Achievements

Microland Smart Infra Hackathon - Winner

October 2024

- Developed a full-stack AI-powered health chatbot as part of a company-sponsored hackathon.
- Handled **backend development**, **deployment** and coordinated **project integration** to ensure smooth collaboration.
- Performance in the hackathon led to a **full-time job offer** from **Microland** as a *Software Developer*.

Technical Skills

Languages: C, C++, JavaScript, SQL

Web Development: HTML, CSS, ReactJS, NodeJS, ExpressJS, REST APIs

Databases: MongoDB, MySQL

Tools & Platforms: Docker, Make, CMake, Cloudinary, Azure Virtual Machines, Render, Git, GitHub

Relevant Coursework

- Data Structures
- Operating Systems
- Computer Networks
- Database Management

• OOP

- Algorithms
- Computer Architecture
- Software Engineering