




# Suman Sekhar Sahoo

Bachelor of Engineering, BITS Pilani

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## EDUCATION

**Birla Institute of Technology and Sciences Pilani**, Hyderabad, India

Sep 2021 - May 2025

*Computer Science Engineering (Major) | CG: 8.02*

- Courses: Data Structures and Algorithms, Object Oriented Programming, DBMS, Operating Systems, Theory of Computation, Cryptography, Computer Networks, Compiler construction, Blockchain Technology

## EXPERIENCE

**SmartCBS**

May 2023 - Aug 2023

*Frontend Development Intern*

*Hyderabad, India*

- Established connection with an API to fetch customer data in JSON format and used React's component-based architecture to display it.
- Used context API to manage API data in a single context provider avoiding prop drilling. Styled components using Tailwind CSS
- Technologies used: ReactJS, Context API, Tailwind CSS

## PROJECTS

**Multithreaded Distributed Graph Database**

Oct 2023 - Nov 2023

*Multithreading, Graph traversals, Operating System*

*BITS Hyd*

- Simulated a Graph Database that involved Load balancer process, Primary server and 2 Secondary servers, a Cleanup process and several Client processes.
- Secondary server spawns threads to serve requests of clients. Used mutex locks to prevent simultaneous write and read or write and write.
- Implemented multithreaded graph traversal- BFS and DFS with semaphores.

**CodeSlate - Online code editor**

June 2024 - July 2024

*React, Monaco Editor, Node, Express, Docker*

- Developed an online code execution platform with a VScode like editor that allows users to write code in C++, Python, Java and Javascript leveraging Docker containers for secure and isolated code execution.
- Users write code and provide input for execution; The Backend dynamically creates temporary code files based on language (.cpp, .py, .js, .java) and spins up a Docker container using appropriate image

**Visualize Convex Hull Algorithms**

Mar 2024 - Apr 2024

*JavaScript, Jarvis March Algorithm, KirkPatrick Seidel algorithms*

*BITS Hyd*

- Developed an interactive simulation allowing users to see Jarvis March and Kirkpatrick Seidel in action
- Users can select points in Canvas and can control simulation speed
- Also allows Random points generation and restart simulation with different simulation speeds

## Skills

- Programming Language: C, C++, JavaScript, Java, Python, SQL
- Foundational Concepts: Data structures and Algorithms, OOPS, DBMS, OS, Computer Networks
- Skills: Frontend Development, Relational Database Management, Machine Learning
- Toolkits/Libraries: ReactJS, NextJS, Redux, Linux, Git, Docker, VSCode

## Position of Responsibility

**Website development team head - BITS Mental Health Support Group**

Jun 2023 - Present

The website development team at BITS Mental Health Support Group aims at increasing the accessibility, reach, and impact of mental health resources. As the Website Team Head, I lead a team of young developers responsible for developing and maintaining our organization's website, ensuring its functionality, usability, and visual appeal.