SAHIL SHIVAJI WALUNJ

Indian Institute of Technology, Goa

Second Year Undergraduate, Computer Science and Engineering

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Education

Computer Science and Engineering, Indian Institute of Technology Goa	CGPA : 8.71/10	2023 - Present
Class 12, CBSE, Dhruv Global School, Sangamner	Aggregate: 95.6 %	2021 - 2023
Experience		

Frontend Development Intern

(Mar 25 - Present)

[Supervisor - Dr. Rahul CS]

- Enhancing a large-scale Angular web application by adding features and improving UI components.
- Collaborating closely with Dr. Rahul CS to integrate advanced filtering, dynamic data visualization, and user-friendly dashboard layouts.
- Optimizing frontend performance and responsiveness using Angular best practices, RxJS observables, and modular component design.
- · Gaining hands-on experience in ERP software development, Angular, and UI/UX refinement in a collaborative environment

Project Intern at Exposys DataLabs

(Jul 24 - Aug 24)

- Assisted in the development and implementation of a DDoS attack detection system using entropy based analysis.
- Integrated the detection system into a MERN stack application, enhancing real-time monitoring capabilities.
- Collaborated with team members to optimize the system's performance and user interface, improving overall user experience

Projects

Groot: Custom Version Control System (Local + Online) [GitHub]

(APR 2025 - PRESENT)

- Engineered a Git-like version control system using Node.js and Express.js, supporting both local CLI operations and cloud-based repos.
- · Designed and implemented core CLI commands ('groot add', 'groot commit', 'groot log') to manage file tracking, commit history, and diffs.
- Structured commit data using hash-based object storage within a custom '.groot' directory to emulate Git's internal architecture.
- Developed secure authentication and data transfer with JSON Web Tokens (JWT) for pushing and pulling commits to an online repository.
- Built a full-stack MERN (MongoDB, Express.js, React, Node.js) dashboard to visualize commits, branches, and file structures.
- · Styled the UI with Tailwind CSS, offering a clean and responsive interface for real-time project monitoring.
- Implemented diff comparison and commit linking with efficient hashing to enable accurate version tracking and rollback.

LinkUp: Video Chat Game Web App [GitHub]

(MAR 2025 - APR 2025)

- Built a real-time video chat and game collaboration web application using the MERN stack (MongoDB, Express.js, React, Node.js).
- Integrated peer-to-peer video calling functionality with WebRTC, enabling direct media streaming between users.
- Implemented real-time chat and multiplayer game synchronization using Socket.IO for efficient bidirectional communication.
- Developed an interactive UI with React and Tailwind CSS, supporting seamless transitions between video chat and gameplay.
- · Designed a user matchmaking system that randomly pairs users and initiates a WebRTC connection session.

Scout-Quick Commerce Price Comparison Tool [LIVE]

(Jan 2025 - Feb 2025)

- Developed a price comparison tool that aggregates and compares product prices across Blinkit, Swiggy Instamart, and Zepto.
- Implemented web scraping using Puppeteer (Node.js) to extract real-time pricing data efficiently
- Engineered the web scraper to handle large-scale inputs, bypassing CAPTCHAs and DDoS protection using headless browsing, proxy rotation
- Optimized data retrieval and storage with MongoDB, ensuring fast and structured queries.
- Integrated chatbots using OpenAI and OpenRouter AI to assist users with product queries and navigation.
- Built a user-friendly UI with React.js and TailwindCSS, providing seamless price comparisons.
- · Deployed the application on Render, ensuring scalability and reliability.
- Demo Login: user1@scout / sof_r_1

Skills

Programming Skills: C, C++, Python, MATLAB, Javascript, R,.

Web Development: TypeScript, JavaScript, AWS, Docker, Electron, MongoDB, PostgresSQL, React, NodeJS, Angular, AI Integration

Libraries: NumPy, Matplot, Pandas, Scikit, Pytorch, JWT, Bcrypt

Positions of Responsibility

Core Member- GoMyno	Organized coding contests, designed algorithmic challenges, and helped conduct Cultrang (FizzBuzz) with 50,000+ footfall.	(2024 - Present)
Core Member- Orion	Core Member of IIT Goa Music club Orion, Handling responsibilities of Music events and performing in them	(2023 -2024)
Vice-Captain (Football Team):	Vice-captain of football team of IIT GOA, represented IIT GOA in various inter-collegiate football tournaments	(2025 - Present)

Achievements

•	Selected as AI/ML Research Intern at IIT Kharagpur, contributing to research in Artificial Intelligence and Machine Learning.	(2024)	
•	Secured AIR 7336 in JEE Advanced (2,50,000+ candidates) and 99.84 percentile in MHT-CET (4,00,000+ candidates)	(2023)	
•	Cleared the initial round of the Masters Union Future Leadership Scholarship Challenge	(2022)	
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Extracurriculars & Hobbies

- Playing Football, also was selected for Football for Inter IIT Sports Meet, 2024 and Spree, BITS sports festival
- Managed and participated in several events in college (Cultural Fests, Independence Day, Republic Day, Musical Nights etc)