

Sahil | B.Tech Computer Science Student

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Education

Rajiv Gandhi Proudyogiki Vishwavidyalaya

Bhopal, MP

B.Tech in Computer Science and Engineering

2023 – 2027

Relevant Coursework: Data Structures, Algorithms, Object-Oriented Programming, Web Development, Database Management Systems, Software Engineering

Technical Skills

Languages: C++, Java (Spring Boot), Python (FastAPI), JavaScript (ES6+), HTML5, CSS3, C

Frontend/UI: React, Tailwind CSS, Three.js, WebGL, Web Speech API

Backend/AI: Node.js, PostgreSQL, SQL, Google Gemini API, Supabase, RESTful APIs

Tools: Git, GitHub, VS Code, Docker, Android Studio, Lovable.dev

Projects

AI Forensic Tool

F.A.C.E.S. (*Forensic Artificial Composite Engine System*)

- Architected a forensic sketch application reducing suspect identification workflows from 8 hours to under 5 minutes (99% efficiency gain) using Generative AI.
- Developed a "surgical" image refinement pipeline using **Segment Anything Model (SAM)** and **Inpainting Diffusion Models** to edit specific facial features while preserving 100% of the core identity.
- Built a high-fidelity dashboard with **Tailwind CSS** and **JavaScript**, replacing abstract sliders with a visual recognition-based input system to improve witness recall accuracy.
- Integrated a simulated Vector Search module (ArcFace/FAISS principles) for instant database matching and implemented dynamic PDF case file generation using **jsPDF**.

EdTech Web App

AstroQuest: *Immersive Exploration Platform*

- Developed an interactive 3D Solar System explorer using **Three.js** and **WebGL**, serving as a spatial anchor for AI-driven educational content.
- Engineered a robust AI response handler using **Google Gemini API** and **JSON Schemas**, enforcing strictly structured output to guarantee reliable, multi-modal responses (text + image prompts).
- Implemented a full voice interface using the **Web Speech API**, enabling hands-free navigation and conversational interaction with the "A.R.I.A" AI assistant.
- Optimized UI performance and stability, resolving critical media streaming issues and deploying a responsive futuristic design using **Tailwind CSS**.

Experience

Self-Employed

Freelance AI Application Developer

Remote

Jun 2023 – Present

- Developed and deployed end-to-end Generative AI web applications using low-code platforms (Lovable.dev) and **React**, accelerating prototyping timelines by 40%.
- Architected scalable backend solutions using **Supabase** to manage secure user authentication and real-time data storage for client projects.
- Engineered complex prompt engineering strategies for **LLM integrations** (Gemini), empowering applications with context-aware, real-time Q&A capabilities.
- Designed immersive user experiences by embedding interactive 3D models (Sketchfab) directly into responsive web interfaces.