

# Preetimohan Pratihari

Software Developer, Undergrad

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## Education

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### SRM University, Amaravati

B.Tech in Computer Science and Engineering

– Relevant Coursework: Data Structures & Algorithms, OOP, Database Management, Computer Networks

Aug 2024 – Jul 2028

Andhra Pradesh

## Projects

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### med\_ai – Healthcare Voice Assistant | *React, TypeScript, Gemini Live 2.5, ElevenLabs, Vite*

[GitHub](#)

- Built a real-time healthcare voice AI with a 3-stage audio pipeline: STT via Gemini Live 2.5, LLM-based tool calling, and TTS output via ElevenLabs; deployed live at [medai-nine.vercel.app](https://medai-nine.vercel.app)
- Implemented 7 AI-powered tools: symptom severity checker, appointment booking, nearby clinic finder, medication lookup, prescription reminders, weather/health alerts, and structured session summaries
- Designed patient profile injection feeding user allergies, conditions, and medications into every conversation for contextually accurate responses; supports 10 languages including Hindi

### CRISP – Disaster Intelligence Platform | *Next.js 14, FastAPI, TimescaleDB, XGBoost, OR-Tools, Mapbox GL JS*

[GitHub](#)

- Engineered a full-stack disaster risk platform with ML-driven flood, heatwave, and cyclone risk prediction using XGBoost and LSTM models on a rolling 72-hour forecast window across Indian districts
- Built a relief optimization engine using Google OR-Tools to solve the Vehicle Routing Problem (VRP), minimizing travel time across relief truck and boat fleets for maximum coverage equity
- Architected a scalable monorepo backend (FastAPI + Celery + Redis + TimescaleDB) with an interactive Mapbox GL JS map featuring live risk heatmaps and route renderings synced via WebSockets

### Synthezyy – AI-Powered Collaborative Whiteboard | *React, Konva.js, Socket.io, Node.js, PostgreSQL, Gemini API*

[GitHub](#)

- Built a real-time multi-user collaborative canvas with freehand drawing, shapes, sticky notes, and live cursor presence via Socket.io WebSockets — garnered 3 community forks on GitHub
- Integrated Gemini AI to generate structured diagrams (flowcharts, mind maps, org charts, timelines) from natural language prompts with automatic element positioning and style inheritance
- Implemented role-based access control (viewer/editor/admin), JWT auth, and export to PDF/PNG/SVG; deployed at [synthezyy.vercel.app](https://synthezyy.vercel.app)

### Triply – Real-Time Group Navigation App | *React, Node.js, Express, Socket.io, Prisma ORM, Leaflet, OSRM*

[GitHub](#)

- Developed a full-stack group navigation app with live GPS tracking synced via Socket.io, featuring 15-second debounced ETA recalculation per member and real-time route sharing across all participants
- Integrated OSRM for routing, Nominatim for geocoding/autocomplete, and Overpass API for amenity discovery (fuel, food, hospitals, ATMs) along active routes
- Built JWT-authenticated trip management with unique trip codes, Prisma ORM, and Redis-backed cache for high-frequency routing data

## Technical Skills

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**Languages** : Python, JavaScript, TypeScript, C, SQL

**Frontend** : React, Next.js 14, Tailwind CSS, Leaflet

**Backend** : Node.js, FastAPI, Socket.io

**Databases** : PostgreSQL, SQLite, MySQL, Supabase

**AI / ML** : Gemini Live API, ElevenLabs TTS, OpenAI API, LSTM, NumPy, Pandas

**Tools** : Git, GitHub, VS Code, Docker (basics), Vercel, WebSockets

## Certifications & Activities

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**Web Development** – Coursera

**Data Science Bootcamp** – Currently Pursuing

**Hackathon Projects** – Built Healthcare AI (med\_ai, deployed) and Disaster Intelligence platform (CRISP) targeting real-world impact in healthcare and disaster response