

Prodip Sengupta

Full-Stack Developer & AI Engineer · MERN · Generative AI · RAG Pipelines · LLM Agents
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PROFILE

Full-stack developer specialising in the MERN stack and Generative AI, with production-deployed experience building RAG pipelines, LLM-powered agents, and AI-native web applications. Certified by Anthropic (Claude 101 & Claude Code in Action). Looking to join a product-focused team where AI is a first-class citizen — not an afterthought.

EXPERIENCE

Frontend Developer & Project Manager

2025 – 2026

Tara Effects Photography · tara-effects.vercel.app

- Built a cinematic production website for a Bengali wedding studio using Next.js and Framer Motion — delivering photography, videography, and digital invitation services.
- Engineered scroll-triggered page transitions and a dark/light theme toggle, achieving a Lighthouse performance score of 95+ on mobile.
- Integrated Cloudinary for optimised image delivery (avg load time < 1 s) and WhatsApp Business API for zero-friction client booking via CTA buttons.
- Owned end-to-end delivery as Project Manager: requirements, design sign-off, and Vercel deployment.

PROJECTS

MenuOS — AI-Powered Smart Restaurant Ordering System

Apr 2026

Next.js, Node.js, MongoDB, Socket.io, OpenAI
Live Demo | GitHub

- Built a QR-based full-stack restaurant ordering system eliminating app installation friction; customers scan, browse, and order instantly via table-based sessions with dynamic menu rendering.
- Integrated an AI agent using a tool-based architecture to handle natural-language ordering — understanding intent and executing add/remove/confirm actions against live menu data.
- Engineered real-time order lifecycle tracking (received → preparing → ready) using Socket.io room-based pub/sub, with JWT-secured admin dashboard and MongoDB-backed session persistence.

LeafCart — AI-Powered Grocery Delivery Platform

Mar 2026

MERN · Gemini Function Calling · Stripe · JWT
Live Demo | GitHub

- Built a responsive MERN e-commerce app with dynamic product filtering, cart management, address handling, and a dual seller/admin dashboard for real-time inventory and order management.
- Implemented an AI cart agent via Gemini function calling that understands natural-language requests ('I want to cook Palak Paneer'), autonomously queries MongoDB, and maintains isolated per-user cart memory across sessions.
- Secured with JWT authentication and Stripe API for real-time payments; deployed on Vercel with a horizontally scalable MongoDB backend.

QueryCart — AI SQL Dashboard

Mar 2026

React · Node.js · Express · PostgreSQL · OpenAI GPT-4o · Recharts
Live Demo | GitHub

- Converts plain-English questions into PostgreSQL queries via GPT-4o; results rendered as auto-switching bar/line charts and tables in real time.
- Schema-injected prompt system enables accurate multi-table JOIN queries across products, orders, and order items — no manual SQL required.
- SQL validation layer blocks all destructive operations (DROP, DELETE, INSERT, UPDATE) before execution, preventing prompt-injection attacks.

SKILLS

Languages: JavaScript (ES2024), TypeScript, Python, Java, HTML5, CSS3

Frameworks: Next.js, React.js, Node.js, Express.js, Tailwind CSS, Redux

Generative AI: OpenAI GPT-4o, Gemini, Claude / Anthropic, LangChain, Prompt Engineering, RAG Pipelines, AI Agents, Function Calling

Databases: MongoDB, PostgreSQL, Supabase, Pinecone (Vector DB)

Tools: Git, GitHub, Postman, Vercel, Netlify, Cloudinary, Stripe API, Docker

EDUCATION

Master of Computer Applications	Aug 2025
Maulana Abul Kalam Azad University of Technology · CGPA 7.80 / 10	
Bachelor of Computer Applications	Jul 2023
University of North Bengal · CGPA 9.07 / 10	

CERTIFICATIONS

Claude Code in Action — Anthropic (Verified)	Mar 2026
Claude 101 — Anthropic (Verified)	Mar 2026

CURRENTLY EXPLORING

- Agentic AI workflows with LangChain Agents and tool-calling APIs for autonomous multi-step reasoning.
- DevOps fundamentals: Jest unit testing, CI/CD pipelines, and Docker containerisation.