Devansh Baviskar

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Full-Stack & AI Engineer · IIT Kharagpur

Education

7.64/10.0 **B.Tech in Electronics and Electrical Communications Engineering**, *Indian Institute of Technology, Kharagpur* | West Bengal, India — *2022-2026*

97.6/100 **Central Board of Secondary Education(10th)**, *Bhavan's BP Vidya Mandir| Mahrashtra, India* — *2007-20*

89.6/100 **Mahrashtra Board of Higher Secondary Education(12th)**, *Sevasadan Junior College| Nagpur, India* — *2020-22*

Achievements: International Robotic Competition (eYRC, IIT Bombay) | TezAsia Hackathon | HPAIR Delegate '24 | ETHGlobal '24

Internships

Honeywell Technology Solutions : *Software Engineering Intern* — *May 2025 – Jul 2025*

- Slashed frontend bundle size by **97.5%** (**10 MB** → **250 KB**) via code-splitting and tree-shaking, cutting initial load time by ~4x.
- Reduced API latency by **parallelising requests** and **restructuring queries**, improving smart-building dashboard responsiveness.
- Owned **end-to-end migration** of the Forge building management platform to an in-house SDK, optimising it across devices.
- Shipped **.NET** microservices for parallel/sequential JSON workflows on **ELSA3**, scaling throughput without architectural changes.

Projects

Cerebrum | Super-intelligent orchestrator layer : *Winners | Cypherpunk '25* — *October 2025*

- Built a super-intelligent agent orchestration system using ASI:One to autonomously select, route, and execute Hugging Face models
- Implemented **transient vs. persistent** model execution with subprocess-based runners, reducing cold-start latency
- Designed a **MeTTa-based knowledge graph** to infer model capabilities, track usage frequency, and keep high-demand models warm
- Engineered an **Agentverse architecture** with address-based messaging and secure sandboxed execution across HF Agents.

Medblock : *Winners | MiniMedi '25* — *August 2023 - Sept 2023*

- Ideated a Nationalized Platform for on-boarding patients and medical officials likewise for ease of access to healthcare services
- Proposed **decentralized** wallet-based report storage, **Multi-factor** KYC, On-chain deployment for Privacy and Security.
- Integrated **Aptos** blockchain with **Next.js** framework with **Octa** authentication to implement bridge between Web2 and **Web3**.

Distributed RAG Ingestion Pipeline and Vector Search Platform : *Backend Infrastructure* — *June 2026 - July 2026*

- Architected an event-driven **RAG pipeline** via FastAPI and **Redis Streams**, achieving **1,000+ docs/sec** throughput with zero data loss.
- Eliminated duplicate worker tasks across scaled nodes by engineering custom distributed **Redis TTL locks** for strict concurrency.
- Cut vector ingestion latency by **>60%** using **Qdrant** and **SentenceTransformers** with asynchronous queue decoupling.
- Enforced **100% test reliability** with zero Mypy/Ruff errors by authoring **36 automated unit tests** using **AsyncMock**.

Biometric Authentication Ledger Platform : *Independent Project | Production Deployment* — *December 2025*

- Built an offline-first **Next.js** ledger platform with local persistence, customer record management and Excel export workflows.
- Engineered biometric login using **face_recognition** and OpenCV with embedding-based authentication and session authorization.
- Implemented audit timeline tracking and biometric-secured access control for a live production deployment supporting 50+ users.

VisualMellow — Multimodal Generative Audio DAW Platform : *Generative AI | Audio DSP Engineering* — *May 2026*

- Engineered an end-to-end multimodal AI DAW with **React 19** and **FastAPI** that converts video and text into multi-track audio using Gemini Vision beat-sheet extraction.
- Architected a 2-stage **FAISS** vector search engine with a **0.72+ confidence gate** for semantic background music retrieval using **bge-large** embeddings.
- Optimized backend generation throughput via category-based async **PyTorch** batching, reducing pipeline API round-trips by **60%**.
- Designed a custom **Python DSP** mixing engine executing dynamic sidechain audio ducking, gain keyframing, and peak normalization synced with a WaveSurfer.js timeline UI.

Asterix – Algorithmic Social & Connection Platform : *Featured Engineering | Cross-Platform App* — *January 2026*

- Architected a full-stack progressive social platform leveraging **Next.js 14 App Router**, **TypeScript**, and **Supabase/PostgreSQL** with **Drizzle ORM**, shipping native iOS and web bundles via **Ionic Capacitor**.
- Engineered a custom multi-dimensional affinity engine in **TypeScript** using **Jaccard similarity matrices** to output real-time match scores (0–100%) at sub-100ms query latency.
- Designed a progressive disclosure interaction pipeline with **TanStack Query** and **Zustand**, tracking reciprocal message exchange milestones (1–15+ turns) to algorithmically unblur user profiles.
- Built high-throughput trust & safety architecture using **Supabase SSR** middleware, custom **Content Security Policy (CSP)** headers, and **JSONB** audit snapshots for real-time moderation.

Agentic Refactoring Platform for Yellow Network : *Hackathon Project | AI Developer Tooling* — *February 2026*

- Built a **LangGraph**-orchestrated coding agent to analyze codebases and propose streamed refactor diffs for protocol integrations.
- Engineered RAG-based code generation over **Yellow SDK** and Nitrolite using vector search for state-channel workflow scaffolding.
- Developed a Next.js Monaco workspace with diff streaming, agent routing and terminal for protocol-aware code transformation.

Climbr : *Open Source Project | Base L2 Creator Funding Platform* — *May 2026*

- Architected a **Base L2** funding platform using **Next.js** and **Solidity** for transparent community governance.
- Engineered a **Quadratic Funding** mechanism to ensure fair reward allocation based on unique contributor count.
- Built a hybrid **Firebase/IPFS** architecture for rich metadata, optimizing profile browsing and frontend speed.
- Developed on-chain voting contracts for verifiable ranking and automated payouts at the end of funding rounds.

OpenMetadata Developer Extension for VS Code : *Open Source Project | Developer Tooling* *April 2026*
- Built a **TypeScript** VS Code extension integrating SQL/dbt parsing, OpenMetadata APIs, schema hovers and metadata operations.
- Engineered lineage visualization, SQL autocomplete and CodeLens tooling using parser logic, OM client resolution and lineage APIs.
- Developed core extension modules for metadata-aware workflows across SQL and dbt, supported by a local Docker testing stack.

Positions Held

Institute Wellness Group, *Executive Head | West Bengal, India* *Sept 2025 – April 2026*
- Leading a team of **40+** to execute mental health drives and gate-keeping sessions for a campus of **15,000+** students.
- Spearheading **KHAT**, a flagship gratitude initiative, engaging **1,800+** students and faculty through letter-writing exchanges.
- Orchestrating high-impact events all year round to boost campus morale, securing a total footfall of over **3,000+** individuals.
- Managing organizational **SOPs**, including candidate screening frameworks and formal institutional correspondence.

Kharagpur Blockchain Society, *De-Fi Analyst | West Bengal, India* *July 2023 - June 2024*
- Conducted **technical research** on DeFi protocols, specializing in **Tokenomics** and liquidity models to identify market trends.
- Authored a comprehensive **technical analysis report** on the Injective ecosystem, evaluating its Layer-1 infrastructure and DeFi utility.
- Served as a **Business Researcher** for the Tez-Asia Hackathon, developing the Proof-of-Work framework for a blockchain super-app.
- Facilitated **Blockchain Workshops** for 300+ students, for smart-contract composition and **decentralized networking** fundamentals.

Skills

Languages	Python (Expert), TypeScript/JavaScript, Java, C++, Rust, Solidity, SQL, HTML5/CSS3
Frameworks & Infra	Next.js 15, React 19, FastAPI, Node.js, Bun, .NET, Tailwind CSS, Electron, Docker
AI & Agentic Systems	LangGraph, CrewAI, RAG (Vector DBs), Gemini API, HuggingFace, OpenCV, TangoFlux
Blockchain & DeFi	Uniswap v4 Hooks, Solana Actions, Smart Contracts, Wallet Integration, Tokenomics
Tools & Engineering	VS Code Extension API, OpenMetadata, Git/GitHub Actions, PID Control, Simulink, Figma