

# Bishal Sarkar

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## EDUCATION

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| <b>Brainware University</b><br><i>B.Tech in Computer Science &amp; Engineering (AIML)</i> — <b>CGPA: 9.20/10.0</b>                       | Kolkata, India<br>Expected July 2026 |
| <b>Vision International School</b><br><i>ISC (Class XII)</i> — Higher Secondary Education<br><i>ICSE (Class X)</i> — Secondary Education | West Bengal, India<br>2022<br>2020   |

## TECHNICAL SKILLS

- **Languages:** Java (OOPs), Python (AI/ML), SQL, TypeScript.
- **Core CS Fundamentals:** Data Structures & Algorithms (DSA), DBMS, Operating Systems, Computer Networks, SDLC (Agile).
- **Tech Stack:** Next.js 15+, React, Node.js, FastAPI, Tailwind CSS v4, Framer Motion.
- **AI & Cloud:** Gemini 2.5, Azure AI (Speech/Document Intelligence), RAG Systems, LangChain, Vector Databases (FAISS).
- **Infrastructure:** Neon Postgres, Drizzle ORM, Appwrite, Upstash, Git/GitHub, Linux Basics.

## PROJECTS

**Zebra AI** — Next.js 15, Drizzle ORM, Neon Postgres, Better Auth GitHub — Live

- Scaled a high-performance SaaS platform using Next.js 15 edge functions, **slashing API response latencies to sub-200ms** and boosting perceived page load speed by **40%**.
- Optimized Neon Postgres performance via Drizzle ORM, **reducing database CPU utilization by 30%** through advanced schema normalization and strategic indexing.
- Implemented secure session handling via Better Auth, reducing authentication-related overhead by **15%**.

**Mystic AI** — Azure AI, Gemini 2.5, Node SDK, Voice Core GitHub — Live

- Deployed an Azure AI-driven unstructured document extraction pipeline with **98% accuracy**, **eliminating 10+ hours of manual data entry per week**.
- Engineered a "Voice Core" engine using Azure Speech SDK, achieving **sub-500ms end-to-end latency** to facilitate natural, real-time human-AI conversational flow.
- Refined data processing layers to reduce patient-doctor info latency by **40%** using Gemini 2.5 Flash.

**CivicOS** — Python, Next.js, Gemini AI, Sarvam AI, Leaflet GitHub

- Developed a national-scale grievance architecture capable of supporting **10k+ concurrent simulated requests**, accelerating administrative response times by **25%**.
- Expanded platform accessibility by **50%** for vernacular speakers by integrating Sarvam AI, enabling voice-first interactions for non-English speaking populations.
- Automated triage via Gemini AI, reducing manual ticket categorization effort by **20%** and accelerating incident resolution cycles.

## ACHIEVEMENTS & CERTIFICATIONS

- **Runner-up:** AI Volution Hackathon, **IIT Kharagpur** (2025).
- **National Finalist:** **India Innovates 2026** (Bharat Mandapam, New Delhi).
- **National Finalist:** Optima 2025 (**IIT Kharagpur**) – Logic and Mathematical Optimization.
- **Certifications:** Enterprise Design Thinking (IBM), Google AI Essentials, AI Fundamentals (CISCO).