

ADITYA SINGH BAIS

Software Engineer | Backend & Full-Stack Development | Data Engineering | AI/ML & Embedded Systems

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PROFESSIONAL SUMMARY

Versatile Computer Science graduate with demonstrated experience spanning backend engineering, full-stack web development, data pipeline design, embedded systems, and AI/ML-adjacent applications. Proficient in Python, TypeScript, JavaScript, and C — with hands-on project delivery across production-grade systems in financial services, IoT, web backends, and robotics. Proven ability to own modules end-to-end: from requirement analysis and system design through implementation, testing, debugging, and documentation. Recognised for fast technology adaptation, structured problem-solving, and clear cross-functional communication. Currently gaining enterprise engineering exposure at Capgemini. Open to opportunities across software engineering, data engineering, platform engineering, AI/ML, and related technology domains.

TECHNICAL SKILLS

Languages: Python (primary), TypeScript, JavaScript, C, SQL — proficient in writing, debugging, and maintaining clean, functional code across backend, frontend, data, and embedded domains

Backend & APIs: Node.js, Flask, FastAPI — REST API design and integration, event-driven service architecture, backend pipeline development, RBAC, webhook integration

Frontend: React.js, TypeScript, HTML/CSS — component-based UI development, state management, client-server integration

Data Engineering: PostgreSQL, MySQL, MongoDB — ETL/ELT pipeline design, schema design (OLTP & OLAP), data validation, transformation, cross-table integrity; Pandas, NumPy; PySpark fundamentals

Cloud & DevOps: AWS fundamentals, GCP (BigQuery, Cloud Storage, Dataflow — upskilling), Azure familiarity; Git/GitHub, CI/CD pipelines, Docker concepts, Agile/Scrum, PR-based code review

Embedded & IoT: Raspberry Pi, Arduino, C firmware, Linux CLI — real-time multi-sensor data acquisition, inter-process scheduling, hardware-software integration

AI / ML & Vision: OpenCV, Speech APIs, machine learning concepts; LLM/AI-powered application exposure; NLP and conversational AI fundamentals (intents, flows, context)

Testing & Quality: Unit and integration testing (Python, Node.js), data validation frameworks, anomaly detection, fault handling, automation for continuous verification

PROFESSIONAL EXPERIENCE

Technology Intern · Capgemini

Apr 2026 – Present | Bengaluru, India

- Contributing to enterprise-scale software and data engineering workflows within a structured global team — writing, reviewing, and maintaining code and pipeline components aligned with large-scale client delivery standards.
- Supporting requirement analysis, system documentation, and process standardisation across technical and non-technical stakeholders including product, engineering, and executive teams.
- Delivering within Agile sprint cycles with CI/CD-aligned practices; building exposure to enterprise SDLC, cloud infrastructure, and cross-functional team collaboration in a Fortune-client-facing environment.

Software Development Intern · Bluestock Fintech

Apr 2025 – Jun 2025 | Bengaluru, India

- Designed, developed, and maintained production backend components for real-time stock price data pipelines — handling continuous ingestion, transformation, validation, cleansing, and storage of large-volume financial transaction data across a multi-tiered platform.
- Built and optimised SQL schemas and REST API data flows for high-volume financial datasets — performing unit and integration testing, anomaly detection, and cross-table validation to maintain data integrity and application stability.
- Owned root-cause analysis and production issue resolution between upstream APIs and the storage layer — implemented diagnostic validation controls to prevent recurrence and maintained structured technical documentation for team continuity.
- Collaborated with cross-functional stakeholders (product, engineering, data, executive) throughout the full SDLC — from requirement analysis to development, testing, and deployment; delivered within Agile sprint cycles with CI/CD and PR-based code review.

PROJECTS

Finance Data Processing Backend — [Node.js](#) · [TypeScript](#) · [PostgreSQL](#) · [Prisma](#) · [React](#) · [REST API](#)

- Built a full-stack financial data system end-to-end — backend REST API services (Node.js, TypeScript), ORM database layer (Prisma/PostgreSQL), RBAC-controlled access, and React frontend; covered full cycle from spec through implementation, testing, and documentation.
- Implemented ETL pipelines with schema normalisation/denormalisation, complex SQL aggregations for trend analysis, and stakeholder-ready reporting outputs — directly mirroring data warehouse and analytics engineering workflows.

Distributed Sensor Fusion — Surveillance Rover — [Python](#) · [C](#) · [Raspberry Pi](#) · [Embedded Linux](#) · [IoT](#)

- Designed and built a high-availability concurrent multi-source data acquisition pipeline on embedded Linux — simultaneously processing real-time streams from ultrasonic, GPS, HD camera, and heat sensors in Python and C; applicable to IoT, platform engineering, and real-time backend infrastructure contexts.
- Optimised system performance under hardware constraints — inter-process scheduling, stream prioritisation, fault detection, and failover handling; reinforced skills in production reliability, debugging, and low-latency system design.

Vision: InMoov Humanoid Robot — [Python](#) · [OpenCV](#) · [Speech APIs](#) · [Arduino](#) · [AI/ML](#)

- Built real-time multi-modal AI pipelines — integrating computer vision (OpenCV), speech recognition APIs, and motion control in Python; each stream independently processed and fused, demonstrating applied AI/ML, sensor integration, and cross-domain engineering adaptability.

Laboratory Management System — [Python](#) · [Flask](#) · [MySQL](#) · [REST APIs](#)

- Developed a complete backend web application — REST API design, data validation pipelines, normalised schema (OLTP), structured reporting, and reusable Python module architecture; full technical documentation maintained for team reference and scalability.

Education

B.Tech — Computer Science & Engineering

Presidency University, Bengaluru | Expected Jun 2026
Class 12 (PCM) · O.P. Jindal School, Raigarh · Jun 2022

Certifications

Deloitte Data Analyst Virtual Simulation — ETL validation, data analysis, stakeholder reporting
Data Visualization Techniques — Infosys SpringBoard
DSA in Java — CodeChef (algorithms, data structures, complexity analysis)
Front-End Full Stack Developer — Udemy (HTML, CSS, JavaScript, React)

Domains & Interests

Software Engineering — backend services, full-stack web apps, REST APIs, system design
Data Engineering — ETL/ELT pipelines, data warehousing, analytics backends, cloud data platforms
AI / ML Engineering — computer vision, speech/NLP, LLM-powered features, conversational AI
Embedded & IoT — real-time sensor systems, firmware integration, hardware-software co-design
Platform & Cloud Engineering — distributed systems, high-availability infrastructure, cloud services

Co-Curricular

Event Management Volunteer — multi-team logistics, cross-functional communication, on-time delivery under dynamic conditions.
Adventure Sports & Team Sports — risk assessment, rapid decision-making, collaborative mindset, accountability under pressure.