

ADITYA DUBEY

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EDUCATION

Indian Institute of Information Technology Kottayam

B.Tech Computer Science, specialization in AI & DS

Aug. 2023 – Apr 2027

Kerala, India

EXPERIENCE

AI & Backend Engineer Intern

May 2026 – Present

ZapData (subsidiary of FinanceBuddha)

On-site, Bengaluru

- Built and solely own **Shield**, a 2-company internal operations platform, replacing manual SQL requests to the data team with a self-serve **text-to-SQL** assistant over **160M+** Snowflake records — DeepSeek V4 Pro, schema-grounded prompting, WebSocket streaming, and Clerk-backed authenticated sessions.
- Built an **LLM-driven query-to-segment layer** on Zapiq that converts free-form user queries into executable business logic, constrained to a system-defined **catalogue of attributes** so generated definitions stay schema-valid and safe to run; owned the catalogue lifecycle (definition, versioning, resolution) backing it.
- Re-architected **Zapiq's** (B2B product) CSV export to execute inside Snowflake (**COPY INTO** → **S3**), removing API memory limits on exports of **lakhs to crores of rows**; automated the underlying IAM role, trust-policy and external-stage provisioning into **Ferry**, a Bun CLI that cut an error-prone multi-hour setup to **<2 minutes**, adopted by both engineering teams.
- Architected end-to-end **RBAC** for tenants and internal staff with a **support-impersonation** path enabling live customer debugging without credential sharing; shipped Zapiq's centralised **notification system** delivering in-app and email (**Mailgun**) events under high volume, a **URL shortener** powering cross-product deep-link routing between Shield and Zapiq, and WhatsApp/Messenger integrations.

Smart Contract Engineer – Real-World Asset Tokenisation (POC)

Oct 2025 – Feb 2026

Zoop Money – proof of concept with Arunabh Parihar, Co-founder

[GitHub](#)

- Built **Brickchain**, a permissioned real-estate tokenisation POC on **ERC-3643 (T-REX)** — 12 Solidity contracts making non-compliant transfers impossible at the contract level by enforcing KYC and transfer eligibility on every mint, transfer and burn via **OnchainID**, **IdentityRegistry** and modular compliance rules.
- Modelled each flat as exactly one token unit via on-chain supply invariants and implemented the full escrow lifecycle (listing, settlement, cancellation, ownership transfer) with a dedicated attester role for legal holds; prototyped an **eRupee**-style settlement rail on **Hyperledger Fabric** and translated Indian/EU securities requirements into contract logic.

PROJECTS

Ferry – Infrastructure Bootstrap Engine

[GitHub](#)

Bun, TypeScript, AWS SDK, Snowflake, GitHub API, Zod

- Open-source engine that makes ordering-sensitive cloud setup safe and repeatable — **55 integrations** across **AWS (EC2, IAM, S3)**, **GitHub** and **Snowflake**, including cross-provider flows such as GitHub Actions OIDC → IAM role (removing long-lived CI secrets entirely) and Secrets Manager → GitHub secrets sync.
- Each integration is a folder of declarative steps the engine probes and plans before mutating anything; conflicts abort pre-mutation, rollback unwinds only what the run created in reverse dependency order (including on SIGINT/SIGTERM), and secrets go to 0600 reports, never stdout. **715 tests**.

Second Brain – AI-Powered Content Management System

[Live](#) | [GitHub](#)

React, Node.js, TypeScript, PostgreSQL, Redis, Pinecone, AWS

- Knowledge-management platform that makes saved content retrievable instead of forgotten — semantic search, shareable collections, real-time collaboration and persistent multi-turn chat, with messages and citations atomically persisted and ownership checks embedded in data-access queries.
- Engineered a **RAG** pipeline on **Cohere Embed v4** + **Pinecone** with per-user vector isolation and similarity-threshold gating that rejects low-confidence retrievals to prevent ungrounded answers; async multi-source ingestion (web, YouTube, X, Reddit) on a **Redis** queue with master-worker execution, deployed as a Dockerised Express API behind Nginx on **EC2** with JWT auth and GitHub Actions CI/CD.

ACHIEVEMENTS

UCO Bank × IIT Kharagpur PSB Hackathon – Finalist, Top 20 of 500+ Teams

[GitHub](#)

Python, FastAPI, PyTorch, React

- Built **Jigyasa**, real-time voice-clone detection on live calls at **AUC 0.997 / 3.1% EER**, using a streaming AASIST + XLS-R + AST + WavLM ensemble.

CIDeCode Hackathon – 2nd Place, National Level

[GitHub](#)

CID Karnataka Cybersecurity Division | 50+ competing teams

- Led a 4-member team to build **SatvaNetra**, photo/video/audio deepfake detection at **95% accuracy**, shipped production-ready inside the 48-hour window.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Python, Go, Solidity, C++, SQL

Backend & AI: Node.js, Bun, Express.js, REST APIs, GraphQL, WebSockets, Prisma, FastAPI, Flask; RAG, text-to-SQL, embeddings, prompt engineering

Infrastructure & Data: Docker, Kubernetes, AWS (EC2, ECS, S3, Lambda, IAM, STS), Nginx, GitHub Actions CI/CD, Prometheus, Grafana; PostgreSQL, MongoDB, Snowflake, Redis, Pinecone, Supabase

Blockchain & Frontend: ERC-3643 (T-REX), OpenZeppelin, Hardhat, ethers.js, Hyperledger Fabric; React.js, Next.js, TailwindCSS