

Ujjwal Jain

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EDUCATION

Birla Institute of Technology and Science (BITS) Pilani

Pilani, India

Bachelor of Science in Computer Science; CGPA: 8.82/10

Aug 2024 – Aug 2028

WORK EXPERIENCE

Apache Superset (75k+ stars)

Feb 2026 – Present

Open Source Contributor

Remote

- Closed a cross-user data-sharing gap in SQL Lab caching by making cache keys vary with each user's **row-level-security** predicates (PR #43985).
- Fixed false access denials for SQL Server users on database-qualified queries by resolving the database from connection settings, keeping unresolvable cases **denied by default** (PR #43974).
- Removed **39 obsolete permissions** via a verified migration: remapped 29 so custom roles keep access, deleted 10 with no safe successor (4 would have silently gained write access) (PR #44142).
- Fixed **re-encrypt-secrets** exiting successfully while rotating nothing by resolving **SECRET_KEY** at runtime; added a rotation test; backported to 6.0 (PR #37982).

Vitest (17k+ stars)

Dec 2025

Open Source Contributor

Remote

- Fixed nested **.only** running the wrong tests, which could hide CI failures (PR #9213); replaced a **tsc** help-text dump with a clear misconfiguration error (PR #9214).

PROJECTS

Fuze | *Flask, React, PostgreSQL, pgvector, Redis, Docker*  

Aug 2025 – Present

- Built an AI content manager with **pgvector semantic search** and cited Q&A, backed by **800+ tests** and a CI coverage gate; live on Hugging Face, Vercel, and Supabase.
- Cut semantic-search p50 latency **45%** (3,026 → 1,661 ms) on the live deployment by collapsing **10 database round trips per request into 1**.
- Reached **0.718 nDCG@10** on BEIR SciFact (300 queries) vs. **0.652** for a BM25 baseline I re-ran; scraping and LLM analysis run off the request path on Redis RQ workers.

CampusSync | *Next.js, TypeScript, PostgreSQL, Supabase, JOSE/JWS*  

Sep 2025 – Nov 2025

- Built a multi-tenant credential-verification platform (**100 API routes**, six roles) where approved certificates become JWS-signed, **W3C-style Verifiable Credentials** that recruiters can verify.
- Enforced per-organization data isolation with authorization checks in every API route plus **PostgreSQL RLS**, and a route-inventory test that fails the build when any route lacks a guard (**1,300+ automated tests**).
- Cut credential-lookup latency **99.98%** (1.2 s → 0.2 ms at 280k records) by replacing JSON scans with an indexed column (**pgbench**, PostgreSQL 17, median of 3 runs).

CampusSlot | *FastAPI, PostgreSQL, Docker, Kubernetes, Helm, Terraform* 

Aug 2026 – Oct 2026

- Eliminated double bookings under concurrent requests with three layers ending in a PostgreSQL **EXCLUDE constraint** (**tstzrange** + GiST); a concurrent-write test on real PostgreSQL creates exactly one booking.
- Cut the overlap query from **2,469 to 30 pages read** on 200K rows with a range query and GiST index, raising day-view throughput from **21 to 113 req/s**.
- Automated test, scan, build, and deploy in **under 3 minutes** per push (GitHub Actions, Trivy gate, Helm, Argo CD, Terraform/EKS); in a rollback drill, a broken release auto-reverted with **0 of 1,600 requests failed**.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, Java, SQL

Backend & Web: FastAPI, Flask, Node.js, Next.js, React, REST APIs, Redis/RQ

Databases: PostgreSQL, MySQL, SQLite, Redis, Supabase

AI & Retrieval: Embeddings, MCP, LLM APIs, LangChain, LangGraph

Security: RBAC, PostgreSQL RLS, JWT/JWS, W3C Verifiable Credentials, Trivy, Gitleaks

DevOps & Cloud: Docker, Kubernetes, Helm, Argo CD, Terraform, AWS (EKS), GitHub Actions, CI/CD, Linux, Git

Testing & Observability: pytest, Vitest, Jest, Prometheus, Grafana, Loki