

# STUTI NAINWAL

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## PROFESSIONAL SUMMARY

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Full-stack software engineer with a Master's in Computer Science (University of Adelaide, GPA 6.8/7.0) and hands-on experience shipping across the entire stack — relational database schema and migrations, backend REST APIs, and React UIs. Experienced in building with TypeScript/JavaScript and Node.js, writing unit and integration tests as standard delivery practice, and scoping data access to organisation boundaries. Previous experience in QA automation (Selenium, Postman) and AI pipeline engineering complements a core focus on writing clean, testable, maintainable code in collaborative team environments. Full working rights in Australia (Subclass 485) until September 2028.

## TECHNICAL SKILLS

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**Languages:** TypeScript, JavaScript, Python, Java, SQL

**Frontend:** React.js, Flutter, HTML, CSS, responsive UI design

**Backend & APIs:** Node.js, Express.js, Django REST Framework, REST API Design, JWT auth, multi-tenant data isolation

**Databases:** PostgreSQL, MySQL, relational schema design, migrations, organisation-scoped query patterns

**Testing:** Unit testing, integration testing, end-to-end automation (Selenium, Postman), CI-integrated test pipelines

**AI & ML:** LangChain, ChromaDB, Groq (Llama), Sentence Transformers, Streamlit, OpenAI API, Hugging Face, face recognition (dlib, Haar Cascades, LBPH), YOLO object detection

**Engineering Practices:** OOP, Design Patterns, SDLC, Agile/Scrum, code review, Git/GitHub, Docker, CI/CD

**AI-Assisted Dev:** Claude, GitHub Copilot, Cursor, ChatGPT/Codex

## EDUCATION

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**Master of Computer Science — University of Adelaide, Australia**

2023 – 2025 | GPA: 6.813 / 7.0

**Bachelor of Science, CS & Engineering — Delhi University, India**

2019 – 2022 | GPA: 9.62 / 10.0 — First Class Honours

## PROFESSIONAL EXPERIENCE

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**Software Engineer Intern — Contensify**

Mar 2025 – Jun 2025 | Remote

- Contributed to building and deploying Search Signal by Contensify — a live visual SEO reporting web application for modern marketing teams, live at [searchsignal.contensifyhq.com](https://searchsignal.contensifyhq.com).
- Developed frontend features in vanilla JavaScript and CSS — data visualisations, filtering, and responsive reporting views designed for agency and in-house SEO workflows.
- Built backend services in Python and Node.js to fetch, process, and aggregate search performance data at scale.
- Integrated Google Search Console API to pull live metrics including impressions, clicks, click-through rate, and average position — surfacing actionable insights across client properties.
- Collaborated directly with the agency's search visibility team to align engineering output with real SEO reporting needs.

**Automation Engineer — TravClan**

2022 – 2023 | Full-Time

- Architected end-to-end regression, UI, unit, and integration test automation frameworks (Selenium, Java/Python) — cutting manual testing effort by 45% across the full QA cycle.
- Built Postman API automation suites covering 35+ REST endpoints — validating reliability, data isolation boundaries, security, and performance ahead of every release.
- Conducted security testing (OWASP ZAP, Burp Suite), identifying 12 vulnerabilities including XSS, SQL injection, and broken authentication — hardening organisation-scoped data access controls.
- Designed modular, reusable test components across a microservices architecture, establishing consistent test standards for the full QA team.
- Shipped test reports and technical documentation across 12 release cycles, improving debugging speed and stakeholder visibility.

## Teaching Assistant — School of Computer Science — University of Adelaide

2024 – Present | Adelaide, Australia

- Taught Event-Driven Computing and Algorithm Design & Data Structures (Java) to graduate cohorts — translating complex technical concepts clearly for human audiences.
- Mentored 200+ students through code reviews, systematic debugging, and one-on-one technical guidance across unit and integration testing scenarios.
- Built automated grading scripts (Python) that cut assessment turnaround by 50% — identified the inefficiency, built and shipped the fix independently.
- Led weekly lab sessions and workshops on coding, debugging, performance optimisation, and software design patterns.

## PROJECTS

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### SplitMateEZ-Beta — [GitHub](#)

*Node.js, Django REST Framework, PostgreSQL, React, Firebase, Celery, Redis, Docker, Fly.io, OpenAI API, Raspberry Pi, dlib, LBPH, YOLOv3-Tiny*

- Built and deployed a cross-platform mobile application integrating ML (face/object detection) and LLM APIs to enable automated utility usage tracking, fair bill splitting, and report generation in shared households.
- Owned the ML pipeline end-to-end: face recognition (hybrid dlib/LBPH architecture), YOLO-based appliance detection, utility tracking logic combining motion detection and face recognition, and Bluetooth beacon fallback system for tenant identification.
- Designed and deployed scalable RESTful APIs (Django REST Framework) with Celery/Redis async task processing and a PostgreSQL/Firebase hybrid architecture — PostgreSQL for structured billing data, Firebase for real-time ML logs and auth.
- Integrated OpenAI API for contextual utility log summaries with rate-limit-aware scheduling via Celery background tasks — cutting manual reporting effort by 65%.
- Built the Flutter mobile front end end-to-end — user registration, authentication flows, and dynamic data visualisation for expense summaries and usage history.
- Containerised and deployed across multiple microservices (Docker, Fly.io), managing DRF, Celery, Redis, and ML services with automated task orchestration.

### EventSphere — [GitHub](#)

*TypeScript, Node.js, Express.js, MySQL, JWT, bcrypt, Google Authenticator, Docker, React*

- Built secure REST APIs (Node.js, Express, TypeScript, JWT) with 2FA and token blacklisting — all queries scoped to the authenticated organisation, preventing cross-tenant data access.
- Designed normalised MySQL schemas for users, events, and audit logs — including migration scripts for schema evolution across deployment environments.
- Implemented bcrypt password hashing, input validation, and parameterised queries — closing XSS and SQL injection vectors throughout the API layer.
- Built a responsive React front end with search, filtering, bookmarking, and dark/light theming — with unit tests covering core interaction flows.
- Wrote integration tests across all API endpoints, validating authentication, data isolation, and error handling as part of standard CI delivery.

### Multimodal RAG Pipeline — *Hugging Face Spaces* ([Live](#))

*LangChain, ChromaDB, Groq (Llama 3), Sentence Transformers, Streamlit, Hugging Face*

- Built and deployed a full multimodal retrieval-augmented generation pipeline enabling conversational querying of PDF documents using natural language.
- Integrated Groq's Llama models for inference and Sentence Transformers for semantic embeddings, with vectorised document chunks stored and retrieved via ChromaDB.
- Self-initiated project — designed, built, and shipped end-to-end with no coursework requirement.