

Joney

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Education

Netaji Subhas University of Technology (NSUT)
Bachelor of Technology in Computer Science and Engineering
Class XII: 92.4% | Class X: 91.8%

November 2022 – May 2026
New Delhi, India

Technical Skills

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

Backend & Web: Node.js, Express.js, NestJS, Next.js, React.js, MongoDB, REST APIs, WebSockets, JWT/OAuth 2.0

Async & Data: BullMQ, Redis, job queues, retries with backoff, PostgreSQL, Prisma, transactions, idempotent APIs

Testing & Tools: Vitest, Node test runner, unit/integration/acceptance testing, Git, Gerrit, Docker, GitHub Actions

AI & LLMs: Gemini 2.5 Flash, multimodal LLMs, LLM agents, tool calling, RAG, embeddings, prompt engineering

Professional Experience

Avataar Skincare

May 2026 – August 2026

SDE Intern

Delhi, India

- Independently built and **shipped a production AI Hair Analyzer** on avataarskin.com, integrating intake forms, six-view image capture, AI analysis, automated PDF report generation, and CRM lead capture, generating **39 reported leads** since June 2026.
- Adapted the company's **asynchronous job-queue architecture** from its Skin Analyzer into a separate NestJS module with **4 REST endpoints**, changing only two shared files; uploads return a job ID immediately while a BullMQ/Redis worker runs the analysis with retries and exponential backoff and the client polls for the result.
- Built a **quality-gated camera capture** flow in React with MediaPipe Face Mesh: **7 checks on every frame**, an overlay that guides framing, lighting and stillness separately, and auto-capture only after **18 consecutive passing frames** (24 on desktop), with a countdown that aborts on any failure.
- Wrote the six-image Gemini 2.5 Flash analysis: it validates the hairline photo first, triggering a **targeted retake of one image** that keeps the other five, then scores **10 concerns from 17 sub-metrics** with weighted formulas as JSON.
- Stack:** Next.js, React, TypeScript, NestJS, BullMQ, Redis, Gemini 2.5 Flash, MediaPipe, html2canvas, jsPDF

Netaji Subhas University of Technology

June 2025 – July 2025

Research Intern — AI/ML & IoT

Delhi, India

- Built a **fully offline voice pipeline** in Python for a Raspberry Pi 4 smart-eyewear prototype, chaining wake-word detection, quantized Whisper speech recognition, embedding-based intent classification and Piper TTS into device actions.

Open Source

September 2026

Collabora Online — *merged contributor* | [Gerrit change 11787](#)

- Merged a performance refactor** into the C++ Writer engine, replacing paired Start()/End() lookups with one StartEnd() at **24 call sites across 13 files** and 7 subsystems to halve point/mark comparisons; reviewed in Gerrit, tested by Jenkins CI.

Projects

AI Purchasing Agent — LLM Tool-Calling Agent | [Live Demo](#) | [GitHub](#)

- Built an LLM purchasing agent (Next.js, TypeScript) **with no database write access**: it investigates stock, demand, open orders, supplier terms and budgets through **6 read-only tools** and returns a structured decision for human approval.
- Separated reasoning from side effects**: on approval, deterministic code writes the order and budget in one transaction; an independent validator re-reads live PostgreSQL state (Prisma), runs **8 post-write checks** and rolls back on any failure.
- Retried LLM calls on 429/5xx with exponential backoff and made approvals idempotent, so a double-click cannot create a second purchase order; **47/47 unit tests passing**, plus 11 Postgres integration tests across 6 scenarios.

LiveDoc — Real-Time Collaborative Editor | [GitHub](#)

- Built a **real-time collaborative editor** on Yjs CRDTs over WebSockets (React, TypeScript, Node.js) with live cursors and presence, verified by **18/18 convergence unit tests** and **13/13 acceptance checks** against a live server.
- Debugged an upstream bug** in y-websocket that attributed presence to the wrong connection, leaving departed users visible for 30 s; fixed it by having clients announce their own ID, cutting removal to **1.4–8.1 ms across 10 runs**, and closed an empty-document sync race by awaiting snapshot load inside the WebSocket upgrade.

Payout Management System — Ledger-Based Backend | [GitHub](#)

- Made every money movement idempotent with idempotency keys and state guards across 13 Node.js/Express REST endpoints, so **each advance is paid exactly once**; **32/32 unit and end-to-end tests** pass in 0.73 s.
- Built an **append-only ledger** (balances as sums of integer-paise entries) for advances, clawbacks, a 24-hour withdrawal cooldown and failed-payout recovery; **documented the low-level design**, sequence diagrams and concurrency strategy.

TOTP Zero-Dependency 2FA — Python, Team of 3 | [GitHub](#)

- Built the RFC 4226 HOTP and RFC 6238 TOTP core of a **zero-dependency pyotp replacement** with **constant-time verification** against timing attacks, passing **all 18 RFC 6238 test vectors**; teammates built the CLI and URI parser.

Achievements

- LeetCode**: 490 problems solved; **Winner, GeekStreak 2024**, a 21-day Problem-of-the-Day challenge by GeeksforGeeks & Deutsche Bank; **NVIDIA-certified** in Fundamentals of Deep Learning.