Aditya Shukla

B.Tech, IIT Bombay, 2027 · Software, data and AI engineering

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Education

B.Tech, Metallurgical Engineering and Materials Science, IIT Bombay	2027	CPI 8.69
Class XII, CBSE, Alard Public School	2023	96.20%
Class X, ICSE, Blue Ridge Public School	2021	94.83%

- JEE Advanced AIR 3935; JEE Main 99.01 percentile; MHT-CET 99.74 percentile
- Perfect AA grade in 8 courses, peak SPI 9.42, 9+ in each of the last 3 semesters; Undergraduate Research Award (URA-01)

Experience

Pattern Technologies · Software Engineering Intern, Data Acquisition and Data Engineering — May – Jul 2026

Shipped 19 production changes across 3 repos, owning 10 Airflow and Spark pipelines over 6 retail domains

- Restored Amazon demographics ASIN coverage from 3,000 to 11,000 a week by fixing cookie expiry
- Cleared a production Spark driver OOMKill with an explicit JSON schema in place of full inference
- Reconciled Mirakl orders across 6 sub-stores, surfacing a 1,668-order gap open since February 2026
- Built an Amazon Seller Central deals collector on the Promotion Central API with account routing
- Migrated Walmart and Amazon PDP feeds to gzip, proving output parity on production data first
- Shipped a daily Asana portfolio-to-subtasks Airflow pipeline, replacing a rate-limited n8n workflow
- Moved the TikTok Shop producer DAG onto Playwright cookie logins, dropping a fragile DAG sensor
- Automated backfill config authoring into a reusable Claude Code skill, added to the team's library

Netradyne · Software Development Intern, Project FRIDAY — May – Jun 2025

A React, FastAPI and MongoDB chat platform opening Model Context Protocol tools to non-technical users

- Built a React and TypeScript frontend over a FastAPI backend with MongoDB chat persistence
- Integrated Azure OpenAI for tool discovery with parameter extraction from plain English requests
- Containerised the platform with Docker, supporting several MCP servers through one chat interface

Hokkaido University, Japan · Research Intern, Prof. Kazuki Nagashima — Dec 2025 – Jan 2026

- Built gas-sensing test devices with automated resistance logging; isolated a 303% NO_2 response from a noisy baseline
- Awarded a letter of recommendation; poster accepted at the MRS Fall Meeting 2026, Boston

Projects

TruthPathMS · Live paid product, solo · Next.js, Supabase · truthpathms.com — Jun 2026 – now

- Sourced cost, salary and visa data across 5 countries, separating 14 verified programmes from 356 estimates
- Designed a disclosed scoring formula whose ROI weight shifts 0.45 to 0.15 across 4 user priorities
- Integrated Razorpay across 4 price tiers with server-side signature verification and a webhook
- Minted 192-bit access tokens on payment, idempotent across a racing webhook and browser redirect

AI Guard Agent · EE 782 course project · Python, Facenet512, Gemini — Nov 2025

- Enrolled trusted users through Facenet512 embeddings, verifying identity by cosine similarity
- Ran a 4-level spoken escalation dialogue on Gemini with a rule-based fallback on API failures
- Threaded capture, recognition and speech over queues, holding 30 FPS free of race conditions
- Reached 88.1% mean recognition confidence at a false positive rate under 5% in good lighting

Real-Time Eye Tracking · Self project · TensorFlow, OpenCV — Jun 2025

- Automated collection of 600+ images with 6× augmentation per image using Albumentations
- Trained a ResNet152V2 backbone on 3,500+ images; 82.75% pixel accuracy at 10 px tolerance, MSE 0.0028

Unreal Engine 5 Game Prototypes · Self project · C++, Blueprints — May 2025

- Built five playable 3D prototypes across shooter, platformer and puzzle genres in native C++
- Made modular health, damage and HUD systems, and enemy AI with behaviour trees and blackboards

Sentiment Analysis on YouTube Comments · DS 303, Prof. Manjesh K. Hanawal Apr 2025

- Built a TF-IDF pipeline over 20,000+ cleaned comments, benchmarking logistic regression, naive Bayes and KNN to 75% accuracy

Image Steganography App · Self project · Python, Tkinter, PIL Jun 2025

- Encoded and recovered hidden text in 100+ images via least-significant-bit encoding, with live preview

Machine Learning and Game Theory · Summer of Code, WnCC IIT Bombay May – Aug 2024

- Implemented simplex, inverse transform sampling and PCA from scratch; solved Notakto with alpha-beta pruning

Positions of Responsibility

Department Academic Mentor · Student Mentorship Programme, IIT Bombay Jun 2025 – now

- Retained for a second term after selection into a 27-member team from 97 applicants by peer review
- Heading the academic subgroup, mentoring 6 sophomores, and running a blog read by 300 undergraduates

Institute Student Mentor · Institute Student Mentorship Programme, IIT Bombay Jun 2026 – now

- Mentoring 12 first-year undergraduates through course selection and the transition into campus life

Skills

Languages	Python, C++, TypeScript, SQL, MATLAB, LaTeX
Data and infra	Airflow, Spark, Snowflake, PostgreSQL, MongoDB, Supabase, Docker, Vercel, Playwright, Git
Web and AI	React, Next.js, Tailwind CSS, FastAPI, FastMCP, Model Context Protocol, Claude Code
Machine learning	TensorFlow, Keras, scikit-learn, OpenCV, BERT, RoBERTa, pandas, NumPy
Practice	545 DSA problems solved (349 on TUF, 196 on LeetCode)

Achievements and Activities

- 2nd runner-up, Energy Case Competition 2025, IIT Bombay; market-entry plan for a solar manufacturer moving into storage
- One of 21 international projects at Grøn Dyst, DTU, Denmark; certified for power pitching by MB Partners
- Top 50 selection for NSO Basketball; 3 years of certified service with Childline India Foundation