

Nakul Arora

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MSc Artificial Intelligence | University of Surrey

Eligible to work full-time in the UK for a 12-month placement as an integrated, assessed component of my Student Visa
(NO SPONSORSHIP REQUIRED)

Education

MSc Artificial Intelligence | University of Surrey, Guildford

Sept 2025 – Sept 2026 | Predicted: 2:1 | IET Accredited

- Relevant Modules: Machine Learning, Deep Learning, Natural Language Processing & Generative AI, Computer Vision, AI Ethics & Regulation, AI for Healthcare
- Programme delivered by the Centre for Vision, Speech and Signal Processing (CVSSP) and the Surrey Institute for People-Centred AI (PAI)

BSc Hons. Computer Science | Delhi University

June 2021 – September 2024 | 6.86 CGPA (~2:1 equivalent)

Experience

Sales Executive | Maxicus, India

Sept 2024 – Aug 2025

- Managed high-volume outbound sales calls, consistently meeting daily targets while tailoring communication to diverse customer profiles and handling objections under pressure
- Built discipline in a KPI-driven environment, developing time management and resilience skills applied to balancing a full-time MSc in the UK

Software Development Intern | CS Soft Solutions, Chandigarh, India

Jun 2024 – Sept 2024

- Developed full-stack web applications using ASP.NET and C#, working across legacy .NET migration to .NET Core, custom Web APIs for business system integration, and e-commerce platforms with PHP, MySQL, and payment gateway integration.

Projects

1. Pricing AI Agent, UK Home Insurance Python, LangGraph, Groq Llama 3.1, ChromaDB, FastAPI, Streamlit, Pydantic, Docker, Pytest | [DEMO](#) | [GITHUB](#)

- Built and deployed an AI assistant answering UK home insurance questions and indicative property prices with policy citations on every reply, using a 5-node LangGraph state machine to return answers in under 3 seconds, freeing front-line agents to handle 10x more customer queries per hour
- Added FCA Consumer Duty guardrails, prompt injection and PII filters, and a fallback path during LLM API outages, locked in with 23 adversarial Pytest cases at 100% pass rate, designed for non-technical operations users with a Streamlit interface and source-traceable answers

2. Explainable Fraud Detection System Python, SQL, XGBoost, LightGBM, SHAP, LIME, SMOTE, FastAPI, Docker, Pytest, GitHub Actions CI/CD | [DEMO](#) | [GITHUB](#)

- Designed and deployed a cloud-hosted production system processing 284,807 financial transactions with full GDPR Article 22 and FCA Consumer Duty documentation, demonstrating IT governance and audit-trail standards essential in regulated industries
- Built and maintained a multi-service Docker infrastructure with 204 automated tests via GitHub Actions CI/CD, ensuring zero manual intervention for routine operations and robust system reliability under change
- Engineered 37 features with stratified train/val/test splits, RobustScaler, and PSI-based drift monitoring, deployed as a FastAPI inference API (11 endpoints, 17 to 22 ms latency) so non-technical investigators can act on outputs without technical support

3. Eco-Formulation Copilot, R&D Data Assistant Python, LangChain DataFrame Agent, Gemini, Pandas, Plotly, Streamlit, Docker, GitHub Actions CI/CD | [DEMO](#) | [GITHUB](#)

- Built an AI assistant for non-technical R&D users that turns plain English questions into Pandas queries over a formulation dataset, replacing a manual SQL or spreadsheet workflow that takes 10 minutes per question with answers in under 5 seconds
- Added a 20-question evaluation framework with ground-truth answers computed at runtime and a hybrid matcher, reaching 90% accuracy across all categories, with a weekly GitHub Actions cron that automatically fails the build below 70% so reliability cannot silently degrade

4. Agentic Travel Intent & RAG Pipeline Python, FastAPI, LangChain, Pinecone, Groq Llama 3.3, Docker, Nginx | [DEMO](#) | [API_DEMO](#) | [GITHUB](#)

- Built a REST API extracting structured travel intent from group-chat messages and running semantic search across 11,000 hotel and flight records on Pinecone, turning a 15 to 20 minute manual workflow into a single API call returning a typed result in under 2 seconds, raising agent throughput by 10x
- Grounded every recommendation in real database rows by RAG construction and prompt-level guardrails, with retrieval verified across 25 evaluation queries (1.0 hotel precision, 0.88 flight precision), deployed on a Hetzner VPS with Docker, Nginx, X-API-Key authentication, and rate limiting.

Skills

Programming: Python, SQL, Bash, JavaScript, HTML/CSS, YAML, C#

Infrastructure & DevOps: Docker, docker-compose, Nginx, Linux, SSH, server administration, GitHub Actions CI/CD, HuggingFace Spaces, Hetzner VPS, DigitalOcean

Web, API & Databases: FastAPI, ASP.NET, Streamlit, Pydantic, Swagger/OpenAPI, REST APIs, SQLite, SQLAlchemy, ChromaDB, Pinecone

IT Practices: Agile/Scrum, automated testing (200+ tests across projects), CI/CD pipelines, FCA/GDPR compliance documentation, technical documentation, non-technical user enablement