

# Raunak Burrows

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## PROFESSIONAL SUMMARY

AI-driven Senior Software Engineer with **5.5+ years** of experience US, India, and UK-based teams bridging product and infrastructure. I design and scale systems that take LLM prototypes to production. My background spans full-stack engineering, data-intensive backend design, and applied machine learning, with a focus on reliability and measurable business impact. I thrive in fast-moving environments where AI, product, and cloud engineering intersect — building tools that are explainable, deployable, and commercially valuable. London, UK — Full right to work in the UK (visa valid to June 2028). Available from 1 Feb 2026.

## SKILLS

- **Programming Languages** : Javascript, Python (NumPy, Pandas, asyncio), Java
- **AI Tools** : Ollama, OpenAI API, LangFlow, LangGraph, LlamaIndex, Hugging Face Transformers, FAISS, MCP Servers, LLM Fine-tuning, PyTorch
- **Frontend** : React (Redux | Next.js), HTML, CSS, TailwindCSS, Shadcn
- **Backend** : Node.js (Express.js | Nest.js), SpringBoot, FastAPI
- **Testing**: Pytest, Jest/Vitest, React Testing Library, Playwright (e2e). Docs: design docs/RFCs in ADR format.
- **Databases** : MySQL, PostgreSQL, MongoDB
- **DevOps** : Docker, Kubernetes, AWS (EC2, ECS, EKS, App Runner), Vercel, GitHub Actions
- **Other**: Salesforce (Apex, Flows, JSForce), Azure AD

## EXPERIENCE (FULL TIME)

[Sciometrix](#), Royal Oak, Michigan, United States of America (Remote) — Software Engineer

July 2023 - April 2025 | [Relieving Letter](#)

- Engineered **HIPAA-compliant X12 EDI flows** (837 submission, 835 remits, 270/271 eligibility) in Java + Spring Boot to replace AdvancedMD; delivered ~\$1,400/month cost reduction and ~30% fewer claim-processing errors measured in Jira QA dashboards.
- Developed a **RAG-based patient info chatbot** using Ollama and LlamaIndex, contextualizing unstructured health notes to answer patient history queries. Conducted A/B testing with 12 physicians, showing a 40% increase in perceived answer relevance, measured via Likert-scale surveys and Zendesk query success rates.
- Built **LLM-backed claim summarisation / anomaly-detection APIs in FastAPI**, auto-triaging billing errors to ops; reduced manual ticket volume over 2 release cycles.
- Designed a **Postgres schema for time-series claim events** using partitions + materialized views, cutting analytics/report queries by ~40%.
- Shipped **React + Tailwind operational dashboards** (real-time claim status, billing KPIs), fronted by Node.js BFF and cached in Redis for high-read panels.
- Productionised **CI/CD**: GitHub Actions → Docker images → AWS EKS with per-PR preview + Playwright smoke tests → lower CFR/MTTR and safer healthcare releases.

[QuestionPro Pvt. Ltd.](#), Pune (Remote) — Full stack developer

August 2022 - July 2023 | [Relieving letter](#)

- Modernised core dashboards to Next.js (SSR/ISR) + shared Tailwind/Shadcn UI, improving initial load and Lighthouse scores and cutting Zendesk UI tickets by ~45%.
- Built FastAPI microservices for **LLM-based text summarisation**, sentiment scoring and keyword extraction; orchestrated with a Node.js layer to swap OpenAI vs internal models.
- Delivered a **React + Spring Boot survey analytics dashboard** with drilldowns; post-launch NPS rose from 3.8 → 4.6/5 on 1M+ MAU fleet.
- Created onboarding/webhook/CSV ingestion APIs (Node.js) for 100+ enterprise customers with ~99.7% success, monitored via internal Metabase dashboards.

[Infosys Ltd.](#), Bangalore (Remote) — Specialist Programmer

September 2021 - August 2022 | [Relieving letter](#)

- Built high-performance Java microservices for eBay's retail platform, using coroutines and stream batching to achieve 2x throughput and cut startup latency (4→2 ms) via JVM profiling (JFR, JConsole).
- Owned the "eBay Bagging Service" in Java + Spring Boot and streamlined CI/CD with GitHub Actions & Docker, ensuring 99.9% uptime across environments.
- Raised test coverage 65%→90% with JUnit 5, Mockito, JaCoCo, mentoring peers in PR reviews and aligning benchmarks & SLAs with eBay standards.

## EXPERIENCE (FREELANCE)

[Aixolotl](#) (Stealth Startup), Switzerland (Remote) — AI Engineer

October 2025 - Feb 2026 | Contract

- Leading the **MVP of AlxChat**, a chat-first AI platform that generates context-aware business UIs (Kanban, Grid, Timeline) from natural-language prompts. Designed the Next.js + TypeScript architecture, AI orchestration layer (Vercel AI SDK + MCP), and dynamic layout engine linking live data from Jira and GitHub.

[Turing](#), United States of America (Remote) — Data Scientist

June 2024 - June 2025 | [Contract](#)

- Conducted supervised fine-tuning and RLHF for [Grok LLM on X](#), enhancing response relevance by 25% (measured through human evaluation scores and automated relevance metrics via BLEU/ROUGE/LlamaIndex eval). Tech Stack : Node.js, Salesforce (Apex, Flows), DocuSign API, AWS EC2, Azure AD, Bitbucket, Jira, Zendesk, New Relic, Ollama, LangChain, LlamaIndex

[The Kind Citizen](#), India (Remote) — Founding Engineer

Jan 2024 - March 2024

- Collaborated with the founder to launch an events booking website in 2 months, leveraging Vercel serverless deployments for maximum cost efficiency.
- Built frontend and backend from scratch, implementing reusable UI components and a responsive design system adopted across all modules.
- Designed backend services to handle event management and ticketing for 1000+ users, implementing industry-standard practices such as ticket locking during booking, concurrency control, input validation, and fault-tolerant workflows, all while keeping infrastructure costs minimal using Vercel serverless deployments.

## EXPERIENCE (INTERNSHIPS)

[Google, Summer of Code](#), Bangalore (Remote) — Contributor, Mentored by Google Engineer

June 2020 – Aug 2020 | [Certificate](#)

- Extended 3D geometry processing and visualisation modules in **C/C++ for BRL-CAD**.
- Improved rendering performance and mesh quality and had code merged to the main repo via community reviews.

## AWARDS / CERTIFICATIONS

- Technical Reviewer | [3D Web Development with Three.js & Next.js \(BPB Publications](#), 2025) | Reviewed Chapters 17–18 (Performance Optimization & AWS Amplify) | [Linkedin Post](#) | [Preview](#)
- Awarded 2 credit hours for participating in the [AIIMS Raipur](#) - Online CME on Artificial Intelligence in HealthCare, recognized by the Chhattisgarh Medical Council ([check here](#)).
- Secured 2nd place in an Office hackathon by developing a scalable knowledge chatbot using RAG and vector embeddings, reducing false positives by ~40%. Optimized A/B tests and qualitative feedback from PMs and client teams. ([Linkedin mention](#), [Official document](#)) ↗ QuestionPro Pvt Ltd
- 430 world rank in [infytiq\\_prep hackerrank contest](#).
- Hackerrank problem solving [certificate](#)

## EDUCATION

[University of Surrey](#) (Ranked 270 World University for Engineering and Technology, QS 2025), Guildford, Surrey, UK — Masters of Science (Artificial Intelligence)

Feb 2025 - Feb 2026

Dissertation: Reducing Patient Wait Times in NHS Triage Using a Mixture-of-Agents Simulation Framework

Supervisor : [Dr. Xiatian Zhu](#), Senior Lecturer in People-Centred AI, University of Surrey

Description : Reducing NHS Patient Wait Times via a Mixture-of-Agents Framework — built LangGraph + SimPy-based routing system using synthetic FHIR data, reducing doctor wait times by 58% and boosting resource utilisation by 19%.

[Jaypee University of Information Technology \(NAAC A+ Accredited\)](#), Solan, H.P. — Bachelor of Technology (Computer Science and Engineering)

July 2017 - June 2021, [Degree](#)

University Capstone Projects (Overall 81.5%) : Reflex Test (3rd year with 85%) [Source Code](#); Jarvis-AI (4th year with 80%) [Source Code](#), [Project Report](#)

Final Year Percentage : 82%

UK Equivalent : RQF Level 6 (Bachelor's Degree with Honours equivalent – 2:1)

## ACADEMIC HIGHLIGHTS

- **MSc Dissertation (University of Surrey, 2025)** — Awarded Distinction for project "Optimising NHS Waiting Time Systems using Mixture of Agents (MoA)". Commended for "clarity of writing, people-centred design, strong system architecture, and first-class simulation results". Recognised for applying LLM-driven AI in NHS triage routing under privacy constraints.
- **Strong STEM foundation** with 85.4% in 12th CBSE ([View Marksheets](#)) — equivalent to UK A-Levels with grades AAAA — including Mathematics (88%), Physics (89%), Chemistry (81%), Computer Science (81%), and English (88%).
- Secured 8.0 CGPA in 10th CBSE ([View Marksheets](#)), equivalent to UK GCSEs with grades A/A<sup>+</sup> in core subjects.

## OPEN SOURCE CONTRIBUTIONS

- Open-Source MCP Automation | Built browser automation stack using LibreChat + Playwright-MCP with Node.js bridge (Docker-ready) ([Linkedin Post](#), [GitHub](#))
- 3D Solar system using Three.js ([Live Link](#), [Source code](#))
- Sentiment Analysis of Movie Reviews : Frontend - [Source code](#), [Deployment](#); Backend - [Source code](#), [Deployment](#)
- Simulating Bacterial Infections in Python : Contributed to open-source development by creating a Python-based simulation of bacterial infections, shared insights and code via a published article ([LinkedIn Article](#)).