

Aryan Sharma

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Education

Guru Gobind Singh Indraprastha University (GGSIPU)

Delhi, India

B.Tech in Artificial Intelligence & Machine Learning

Aug 2023 - Jun 2027 (Expected)

- Smart India Hackathon 2025: national round, top 24 teams (Team Verdant, HMRITM)
- Campus Shark Tank 2026: 3rd place, "Fuel The Future" pitch (E-Cell Society, HMRITM)

Technical Projects

NeuroLens - Brain MRI Tumor Classifier | Live Demo

Python, PyTorch, timm, EfficientNet-B3, Grad-CAM, Gradio

- Reached 96.51% accuracy, 0.998 macro AUC, and 0.954 macro F1 on 687 unseen patient images by splitting at the patient level, verified leakage-free
- Built the four-class corpus by hand from two raw sources, since pre-aggregated versions strip the patient IDs honest splitting needs
- Ran Grad-CAM across the test set to confirm the model reads tumors, not scanner artifacts, and to separate wrong-class from wrong-attention errors
- Deployed a Gradio service on Hugging Face Spaces returning per-class confidence with a Grad-CAM overlay, no local setup

College Compass - Learning-to-Rank Admission Engine | Live Demo

Python, LightGBM, LGBMRanker, FAISS, FastAPI, React, SQLite

- Predicted year-over-year change in a JoSAA cutoff instead of the raw rank, keeping every forecast inside the model's trained range
- Blocked label leakage by excluding closing-rank-derived features from the LGBMRanker, and kept personalization strictly downstream of eligibility
- Calibrated admission probability with isotonic regression on a held-out year, rounded to 5% so it never implies false precision
- Cut fabricated numbers from the LLM counsellor by exact-matching every figure against retrieved data in code, stripping mismatches

Relay - Autonomous Smart Grid SOC | Live Demo

Python, scikit-learn, LiteLLM, Pydantic v2, asyncio, Streamlit, pytest

- Hit 100% detection at a 0.131% false-positive rate over 90 randomized attack runs using four independent detectors: rules, statistics, Isolation Forest, physics
- Drove unnecessary generation to 0.0 MWh by reconstructing a quarantined sensor only when it is the single unknown among trusted peers
- Kept the LLM out of the control path: a deterministic policy engine decides what auto-executes, agents only propose
- Ran every scenario twice, security on and off, to report the real cost, emissions, and generation delta

Technical Skills

- **Languages:** Python, TypeScript, JavaScript, SQL
- **ML / DL:** PyTorch, LightGBM, scikit-learn, timm, learning-to-rank, probability calibration, group-aware cross-validation, Isolation Forest, Grad-CAM, NumPy, Pandas
- **LLM / GenAI:** Gemini, GPT-4o, Groq, LiteLLM, DSPy, RAG pipelines, FAISS, sentence-transformers, structured outputs, response grounding, multi-agent orchestration
- **Full-Stack:** FastAPI, React, Next.js, Node.js, Express, Tailwind CSS, REST APIs, Pydantic v2, SQLite, PostgreSQL, MongoDB
- **Infra & Tooling:** Vercel, Hugging Face Spaces, Streamlit Cloud, GitHub CI, Docker, Git, pytest

Certifications

- **IBM SkillsBuild:** Make Agentic AI Work for You, Introduction to Large Language Models, Introduction to Retrieval-Augmented Generation, The Rise of Multiagent Systems
- **Udemy:** Full Stack Web Development with MERN Stack & GenAI (97 hours, Aug 2025)