

Manav Aghera

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SUMMARY

AI/ML Engineer with 2+ years of experience building Machine Learning, Deep Learning, NLP, Computer Vision, and Generative AI systems. Skilled in LLM architecture, Retrieval-Augmented Generation (RAG) pipeline design, model fine-tuning, agentic multi-agent systems, and inference optimization, with production-oriented, hackathon-recognized project work. **Anthropic Academy-certified** in Model Context Protocol (MCP) and RAG; **Top 1% Kaggle competitor**.

EXPERIENCE

Brainy Beam Technologies

Data Science & Machine Learning Intern

Ahmedabad, India

Jul 2023 - Aug 2023

- Built an end-to-end ML pipeline on a 40,000+ record banking dataset, benchmarking Logistic Regression, Decision Tree, and Random Forest models; best model reached **92% accuracy** (F1, AUC-ROC evaluated).
- Reduced data preprocessing time by **~30%** through automated cleaning scripts; findings informed campaign targeting and deposit-rate recommendations.

Riot Games

Beta Tester

Remote

Mar 2024 - Mar 2025

- Play-tested **50+ pre-release builds**, systematically identifying bugs and balance issues on new maps and mechanics ahead of public launch.
- Authored detailed, reproducible bug reports (steps, environment, logs) that accelerated triage and fixes prior to release.

SELECTED PROJECTS

CHRONUS — Memory-Grounded AI Research Platform (Research Phase) | RAG, LLM, Sentence-BERT, ChromaDB, Homomorphic Encryption, Quantum NLP, Neuromorphic Computing

- Authored a next-generation research roadmap evolving a local, deterministic RAG pipeline (Sentence-BERT + ChromaDB, hallucination-free retrieval) into a privacy-preserving, cloud-scale platform secured by Additively Homomorphic Encryption for encrypted vector similarity search.
- Designed offline research sandboxes benchmarking Quantum NLP (Qiskit/PennyLane, amplitude encoding) and Neuromorphic Computing (Spiking Neural Networks, Intel Loihi 2) as future-generation retrieval and memory-consolidation architectures.

AutonomousContent — Multi-Agent LLM Publishing System | LangGraph, Python

- Architected a 4-agent LangGraph pipeline (Research → Writer → Validator → Publisher) with automatic failure detection and model fallback, scoring **78.7/100** average on automated content validation; produced 6 published technical articles.

Fasal AI — Smart Agriculture Computer Vision Platform | YOLOv8, TensorFlow, Whisper, ONNX

- Built a real-time crop-disease detection app (YOLOv8/TensorFlow) with multilingual (Hindi, Gujarati) voice input via Whisper and an offline-first TFLite version for low-RAM Android devices.

LLM-NewsHub — End-to-End AI News Generation Pipeline | LLMs, FastAPI, React, Docker

- Built a full-stack pipeline that scrapes news/social sources, extracts structured event cards, clusters related stories (TF-IDF + K-Means), and generates LLM-authored articles with audio, image, and video summaries, served via a React + FastAPI app with Dockerized deployment.

TECHNICAL SKILLS

ML / Deep Learning: Python, TensorFlow, TensorFlow Lite, PyTorch, Scikit-learn, YOLOv8, Sentence-BERT, Whisper, ONNX Runtime, Hugging Face Transformers

NLP / GenAI / LLMs: LLM Architecture & Inference, Model Fine-Tuning, RAG Pipeline Design, Prompt Engineering, Agentic Systems, LangChain, LangGraph, ChromaDB, Vector Databases, Llama 3, Ollama

Programming & Web: Python, TypeScript, JavaScript, SQL, React.js, Flask, FastAPI, REST APIs

Data, Tools & MLOps: Pandas, NumPy, Docker, Git, GitHub, Jupyter Notebook, BeautifulSoup4, MLflow

CERTIFICATIONS & ACHIEVEMENTS

- Top 1%** — Kaggle "Autonomous Agent Prediction (Beta)" (570 teams); **Top 1%** — Kaggle "Predicting Student Health Risk," Playground Series S6E7 (3,355 teams).
- Model Context Protocol (MCP) & Retrieval-Augmented Generation (RAG) Certification — Anthropic Academy.
- Software Engineering Virtual Experience — JPMorgan Chase & Co. (Forage).
- Google Developer Student Club (GDSC) Member — contributed pull requests and resolved issues on open-source repositories.

EDUCATION

B.Tech, Computer Science Engineering — Parul University, Vadodara

Expected May 2027

Diploma, Computer Engineering — NG Patel Polytechnic, Bardoli (CGPA 8.4)

Apr 2025