

RAJ NEELAM GAURAV

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Self-taught AI/ML Engineer and 3rd-year B.Tech CSE (AI & ML) student at Quantum University. Passionate about building intelligent systems — from custom Transformer architectures and neuroevolution agents to full agentic AI pipelines. Strong foundation in deep learning, reinforcement learning, and LLM-based applications with PyTorch.

EDUCATION

B.Tech – Computer Science & Engineering (AI & ML)

Quantum University, Roorkee

Graduating 2027

8.01 CGPA

TECHNICAL SKILLS

AI / ML: PyTorch, scikit-learn, NEAT, Transformers, LSTMs, CNNs, ViT, Autoencoders, OpenCV

Agentic AI: LangChain, LangGraph, n8n, OpenAI API, MCP, Ollama, RAG

Backend & APIs: FastAPI, Node.js, Express.js, REST APIs, Docker, MongoDB, MySQL

Frontend: React.js, Tailwind CSS, HTML5, CSS3

Languages: Python, JavaScript, C++, SQL

Tools: Git, GitHub, Postman, Vercel, Render, TensorBoard, Matplotlib, Plotly, Pygame

PROJECTS

Custom GPT-2 Implementation [\[GitHub\]](#) [\[Demo\]](#)

PyTorch | Multi-Head Self-Attention | Positional Embeddings | Layer Norm

- Full GPT-2 architecture from scratch in PyTorch (no HuggingFace) — multi-head attention, positional embeddings, layer norm — with a live web interface for interactive text generation.

Flappy Bird NEAT AI Trainer [\[GitHub\]](#) [\[Demo\]](#)

NEAT | Python | Pygame | Neuroevolution

- Neuroevolution agent learning Flappy Bird from scratch via NEAT, evolving weights and topology; achieves human-competitive play within a few generations with a browser-playable demo.

Language Translation with Transformers [\[GitHub\]](#)

PyTorch | Seq2Seq RNN | LSTM | Custom Transformer | Attention

- Progressive English-to-Hindi translation pipeline — Seq2Seq RNN to LSTM with attention to a fully custom Transformer — demonstrating measurable gains at each architectural stage.

Movie Recommendation System [\[GitHub\]](#)

FastAPI | React.js | scikit-learn | MongoDB | Python

- Full-stack engine combining content-based (TF-IDF, cosine similarity) and collaborative filtering; FastAPI backend with React (Vite) frontend for search, details, and preference tracking.

WORK EXPERIENCE

SAMatrix, [samatrix.io](#): AI / ML Intern

2024

- Applied statistical ML methods to predict customer behavior; handled feature engineering, model evaluation, and result interpretation on real-world datasets.

SpeedPe, : AI / ML Developer (Startup)

2024

- Built a fraud detection system for financial transactions using anomaly detection and classification on imbalanced datasets to minimize false negatives.

Google Developer Group (GDG), Quantum University, : Core Member

2023 – 2024

- Organized 15+ technical events and AI/ML workshops; delivered speaker sessions to grow the campus developer community.

CERTIFICATIONS

- **Machine Learning Specialization** – Andrew Ng / DeepLearning.AI (Coursera)
- **Deep Learning Specialization** – Andrew Ng / DeepLearning.AI (Coursera)
- **Reinforcement Learning Specialization** – University of Alberta (Coursera)