

RAJEEV NANDAN DAMARLA

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B.Tech Computer Science & Engineering candidate (CGPA: 9.27/10) specializing in Machine Learning, Generative AI, and Agentic workflows. Driven by technical curiosity to learn and explore advanced AI techniques, offering strong analytical thinking and structured problem-solving. Experienced in optimizing data pipelines, training deep learning models, and deploying production-grade AI systems through an IIT Kanpur internship and freelance engineering. Expert in PyTorch, Pandas, FastAPI, and vector databases (FAISS). Seeking a challenging AI / ML or Data Science Engineer position to build scalable, production-grade machine learning applications.

EDUCATION

GITAM University – School of Technology

2023 – Present

B.Tech in Computer Science & Engineering – CGPA: 9.27/10 (Expected Graduation: May 2027 – Kolkata Resident)

RELEVANT COURSEWORK

Data Science & Math: Probability & Statistics, Linear Algebra, Discrete Mathematics, Graph Theory, Design & Optimization Foundations, Design & Analysis of Algorithms, Database Management Systems

AI/ML & NLP: Machine Learning, Deep Learning, Natural Language Processing, Computer Vision, Artificial Intelligence Applications, Compiler Design

EXPERIENCE

Independent ML & Data Science Engineer

September 2025 – Present

Freelance / Self-Employed – Custom AI Solutions & Analytics

Kolkata, India

- Designed RAG and agentic workflows using LangChain and FAISS vector databases for semantic document search
- Conducted feature engineering, Data Preprocessing, and optimized statistical data pipelines in Pandas and NumPy, boosting speed by 35%
- Developed and integrated deep learning models into production systems using FastAPI microservices and Docker
- Built interactive dashboards for Data Visualization, monitoring model performance metrics and live dataset statistics

Generative AI Research Intern 🌟 Certificate

June 2025 – August 2025

Indian Institute of Technology, Kanpur – Deep Learning & Vision Research Group

Kanpur, India

- Researched deep learning pipelines in PyTorch, using FID scores for Model Evaluation and generation quality assessment
- Reduced model inference latency by 22% implementing FP16 mixed-precision and post-training Model Optimization
- Developed empirical evaluation frameworks for Model Evaluation and benchmarking across different Neural Networks
- Processed and validated high-dimensional image datasets to ensure end-to-end pipeline reproducibility

DATA SCIENCE & AI PROJECTS

Insight GPT (Semantic Search & RAG Pipeline) 🚀 Project

Oct 2025 – Dec 2025

Data Science Project – Document Processing & Vector Search

- Built document processing pipelines with FAISS vector indexing across 500+ PDFs (80K pages)
- Achieved 0.82 top-1 accuracy on 200-query benchmark, reducing FastAPI cache latency by 35%
- Utilized Python for Data Preprocessing, cleaning, and extracting high-quality embedding vectors from text

Image Generation using Diffusion Models (Deep Learning) 🚀 Project

Jan 2024 – Mar 2024

Data Science Project – Dataset Curation & Performance Evaluation

- Developed text-to-image diffusion models, tracking prompt-image alignment with 0.78 CLIP score
- Curated 10K+ synthetic training samples, reducing deep learning training time by 30%
- Deployed Gradio interfaces on Hugging Face, serving 500+ organic model generations

Real-Time Object Detection (Computer Vision Serving) 🚀 Project

Jan 2026 – Mar 2026

Data Science Project – Efficient Model Optimization

- Implemented real-time DETR-ResNet-50 object detection at 15 FPS with < 100 ms inference latency
- Achieved mAP@0.5 of 0.68 on standard COCO validation subset for Model Evaluation, displaying bounding boxes in-browser
- Quantized models post-training, reducing memory footprint by 25% and startup latency by 40%

TECHNICAL SKILLS

Programming Languages: Python (Advanced), C, C++, Java, JavaScript, SQL, HTML/CSS

Machine Learning & AI: Neural Networks, Natural Language Processing, Computer Vision, Predictive Modeling, PyTorch, TensorFlow, Scikit-Learn, MLOps

Model Engineering: Model Evaluation, Model Optimization, Generative AI, LLMs, LangChain, RAG, FAISS Vector Databases, FastAPI, Docker

Data & Visualization: Data Preprocessing, Feature Engineering, Data Visualization, Statistics, Pandas, NumPy, Git/GitHub

Professional Attributes: Analytical thinking, Problem-solving, Curiosity, Technical Documentation, Vercel, Next.js, Figma, Linux

RESEARCH CONTRIBUTIONS & OPEN SOURCE

- Open-Source Model Replication:** Actively reproduce and evaluate state-of-the-art Deep Learning models on Hugging Face.
- Technical Documentation & Reproducibility:** Document development process, experiments, and findings clearly to support community reproducibility.

CERTIFICATIONS

Certifications available at: <https://github.com/Rajeev91691/Certifications>