

PIYUSH MITTAL

Aspiring AI/ML Engineer

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Summary

AI/ML engineer with hands-on experience in fine-tuning large language models, building LangChain-based pipelines, and developing OCR and embedded ML solutions. Proven ability to drive measurable improvements—boosting model accuracy, reducing inference latency, and automating workflows. Seeking internships or full-time roles to apply expertise in Python, TensorFlow, PyTorch, and modern AI frameworks to real-world challenges.

Education

Maharaja Agrasen Institute of Technology, New Delhi, India

Aug 2022 – May 2026

Bachelor of Technology in Computer Science Engineering • CGPA : 9.00/10

Skills

Machine Learning & AI: Python, TensorFlow, MLX, PyTorch, Hugging Face Transformers, LangChain, scikit-learn, NumPy, Pandas

Generative AI: LLM Fine-Tuning (LoRA/Unsloth), Prompt Engineering, RAG, Embeddings

Tools DevOps: Git, Docker, AWS, Firebase, CI/CD, FastAPI

Web Development: HTML, CSS, JavaScript, React

Databases: SQL, MongoDB, Vector DB

Projects

Molde – Conversational AI Code Editor

May 2025 – Present

- Architected and developed Molde, a conversational AI code editor with a text-based Terminal UI.
- Built the entire system in Python, implementing a local-first Retrieval-Augmented Generation (RAG) pipeline with Ollama and ChromaDB for context-aware code generation.
- Implemented robust safety checks including syntax-highlighted diff previews and automatic Git backups to ensure all changes are user-approved and reversible.

SERENE Digital Reader

Mar 2025 – Apr 2025

- Launched a minimalist reader converting PDF and scans into structured clean markdown using Mistral OCR, achieving 94% text accuracy.
- Integrated AI modules for summaries, ELI5 explanations, and jargon minimization, reducing average reading time by 30%.
- Optimized processing pipeline to handle **1,000** pages at under **1 s** per page, enabling batch uploads and real-time feedback.

SOCR – TES Chat Tutor

Jul 2024

- Developed an AI-driven learning platform by fine-tuning LLaMA-3.2:1B with custom self-created data, enhancing question comprehension by 85%.
- Engineered context-awareness algorithms merging code, chat history, and diagrams to deliver coherent, multi-modal responses.
- Implemented feedback loops from 50+ beta users, boosting answer relevance by 40% through iterative model updates.
- Built a scalable pipeline handling 1,000+ labeled examples for continuous model retraining.

Key Achievements

- 1st Place**, Blockathon IIT Roorkee 2025: Developed an ML solution for blockchain transaction verification, improving validation speed by 40%.
 - 1st Prize**, IEEE Hardware Competition 2023: Led hardware and software development of a robotic hand prototype.
 - 2nd Place**, HWM 4.0: Created an ML model detecting microplastics in blood samples with 92% sensitivity.
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