

Abhishek Kapoor

Artificial Intelligence and Machine Learning Engineer

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TECHNICAL SKILLS

Programming: Python, Go, Java, JavaScript, TypeScript

Frameworks & Libraries: React.js, Next.js, Node.js, Flask, Django, Express.js

AI/ML & LLM Tools: PyTorch, TensorFlow, Scikit-learn, LangChain, LangGraph, LangSmith, Hugging Face, OpenAI API, Pinecone, Neo4j, ChromaDB

Cloud & DevOps: Docker, AWS, GCP, Firebase, Vercel, Nginx, GitHub Actions (CI/CD)

Databases: MySQL, PostgreSQL, MongoDB, PrismaORM, AstraDB

Version Control & IDEs: Git, GitHub, Microsoft Visual Studio, Postman

Other Tools: Power BI, Figma, Cloudinary, Redis, Android Studio

Soft Skills: Analytical and Algorithmic Thinking, Creativity, Growth Mindset, Leadership, Collaboration, Effective Communication, Adaptability, Problem-Solving, Attention to Detail, Business Acumen

PROFESSIONAL SYNOPSIS

AI & Machine Learning Engineer with experience in developing scalable intelligent systems using Python, PyTorch, and modern deep learning frameworks. Skilled in Machine Learning, Computer Vision, NLP, Retrieval-Augmented Generation (RAG), and large-scale AI systems, with a strong interest in applied research and solving real-world problems through data-driven approaches. Passionate about advancing state-of-the-art AI technologies and contributing to impactful research initiatives across domains such as healthcare, multimodal learning, and intelligent systems.

PROFESSIONAL EXPERIENCE

Research & Development Intern | Synopsys Inc. | Jan 2026 – Current

- **Reduced memory-step latency by 67% (12s → 4s)** by parallelizing three query rephrasers with conditional result merging.
- **Validated agent-memory accuracy across ~8,000 test cases** by integrating graph-based memory retrieval and self contained query rephrasing.
- **Improved multi-step agent reliability** by designing dependency-aware sequential execution for code generation and execution workflows.
- **Improved agent error recovery** by building a corrective query tool to undo incorrect steps and apply targeted fixes.
- **Collaborated with development and testing teams** to integrate new Ansys Mechanical APIs, resolve test issues, and integrate Copilot capabilities into the Scripting Agent.

PROJECTS

DevOps Agent – Autonomous Deployment Assistant | Oct 2025 - Dec 2025 | [Link](#)

- Developed an **LLM-powered DevOps agent** using **LangGraph** and **LangSmith** to automate deployments and configuration management of applications across **AWS, GCP, and Docker**, with **Pinecone** and **Neo4j** for vector retrieval and graph reasoning.
- Implemented **unit testing, defect analysis, and performance optimisation** to improve deployment reliability, software configuration and reduce latency by **40%**.

DeepDSA – AI Technical Interview & Assessment Platform | Sep 2025 | [Link](#)

- Engineered a **microservices-based AI interview platform** using **Redis, PostgreSQL, and NextJS**, scalable to **millions of concurrent users**.
- Designed an **AI interviewer (speech-to-text + LLM)** for **natural language technical interviews, code evaluation, and skill scoring**, improving assessment efficiency by **65%**.

Amazon ML Challenge – Product Price Prediction | Sep 2025 | [Link](#)

- Achieved an **SMAPE score of 56**, ranking in the top percentile by developing an **ensemble model** combining **CNNs, DNNs, and Natural Language Processing models**.
- Used **Sentence Transformers, XGBoost, and multimodal feature fusion** for accurate price predictions from product descriptions and images.

EDUCATION

Bachelor of Engineering in Computer Science in Artificial Intelligence

Chitkara University, Punjab, India

Aug 2023 – Jun 2027

CGPA: 9.81 / 10

Certifications: [Computer Vision Specialization](#) | [Natural Language Processing Specialization](#) | AWS – Advanced DevOps Practices | [Python for Data Science, AI & Development](#) | [Software Quality Assurance and Testing](#)