

Vansh Bhatnagar

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SUMMARY

I'm an AI Developer and Backend Engineer specializing in production-ready machine learning systems. I design and deploy end-to-end ML pipelines using PyTorch and TensorFlow, with deep expertise in neural networks, retrieval-augmented generation, and generative AI. My focus is building scalable, distributed systems that seamlessly bridge cutting-edge AI research with real-world applications that perform at scale.

WORK EXPERIENCE

NJR I3 Labs Pvt. Ltd. | AI/ML Intern

Apr 2025 – July 2025

- Developed interactive 3D learning interface using Three.js that increased user engagement by 35%. Improved knowledge retention rates by 20% through immersive visualization of complex educational concepts.
- Implemented AI-driven content personalization algorithms with Gemini AI, achieving 85% recommendation accuracy. Reduced average learning completion time by 30% through intelligent learning path optimization.

ShadowFox Technologies | AI/ML Intern

Aug 2024 - Sep 2024

- Developed and optimized advanced machine learning algorithms for multiple applications, achieving 25% reduction in processing time and 10% improvement in accuracy metrics.
- Conducted extensive data analysis to identify performance bottlenecks and applied targeted solutions, resulting in overall operational efficiency improvements of over 15% within the development team's workflow.

SKILLS

- AI/ML Development:** TensorFlow, PyTorch, Neural Networks, Natural Language Processing, Computer Vision, LangChain, LangGraph, TTS, STT, Re-Rankers
- Cloud & Infrastructure:** AWS, GCP, Azure, Terraform
- DevOps & Automation:** Jenkins, Git, Docker, Kubernetes, Ansible
- Backend Development:** Django, Flask, Express, GraphQL, WebRTC Integrations
- Database Management:** MongoDB, PostgreSQL, pgAdmin, ER/Studio
- Testing & Quality Assurance:** Selenium, Unit Test, Pytest
- Soft Skills:** Interactive, Adaptability, Teamwork, Time Management

RELEVANT PROJECTS

LangGraph CyberSecurity Agent | github.com/Vansh41104/LangGraph-CyberSecurity-Agent

Feb 2025 -Mar 2025

- Engineered a comprehensive cybersecurity solution using LangGraph and Meta Llama 4, deploying intelligent multi-agent applications that enhanced security protocols across devices.
- Conducted rigorous vulnerability assessments using advanced integrated scanning tools such as Nmap, Gobuster, FFUF, and SQLMap, identifying and mitigating over 1,500 potential security threats within infrastructures to bolster defense mechanisms.

AI Based Grass and Milk Production Predictor | github.com/Vansh41104/FarmML_Project

Sep 2024 – Dec 2024

- Improved a deep-learning computer vision system to analyze agricultural images, achieving a 40% increase in accuracy for grass quality evaluation and yield forecasting, processing over 10,000 farm photos weekly
- The solution uses image processing algorithms to scan important features such as colour, texture, and morphology to produce quality indexes and weight prediction with high accuracy.

EDUCATION

B. Tech in Computer Science

Sep 2022 – June 2026

- Techno India NJR Institute of Technology, Udaipur, Rajasthan

ACHIEVEMENTS

- Led a team in creating an AI-driven medical diagnostic system for rural societies in the **CodeRed 4.0 Hackathon** and stood 2nd overall.
 - Designed and executed a Deep-Learning-based CNN model for the analysis of X-rays and CT scans of over 10,000 images to predict potential diseases
 - Contributed towards making advanced medical diagnostics accessible to deprived rural societies.
- Received a **Letter of Recognition from WHO** for developing an interactive monitoring platform for unvaccinated children.
 - Implemented a geo-tagged dashboard to effectively track and display vaccination coverage.
 - Created a complete system for monitoring daily vaccine events in real time.
- Led team to **Matrix Protocol AI Hackathon** finals, developing an AI conversational agent for company FAQs with integrated web scraping capabilities
 - Achieved 3-second response latency despite real-time data retrieval and intent classification
 - Implemented RAG architecture with multi-format document embedding for optimized query responses