Snehal Tripathi

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PROFILE

Data Scientist & AI Engineer with hands-on experience in data pipelines, experimentation frameworks, and ML evaluation for intelligent systems. Skilled in turning complex datasets into actionable insights, performance metrics, and feedback loops to improve AI system behavior. Strong interest in agentic AI and continuous learning systems.

TECHNICAL SKILLS

Programming & Software: Python, SQL, Object-Oriented Programming (OOP), Software Development Life Cycle (SDLC)

AI & ML Frameworks: Data preprocessing, feature engineering, machine learning, Computer Vision, NLP, Model Building & Evaluation, LLM, RAG, PyTorch, TensorFlow, Scikit-Learn, Stable Diffusion, ControlNet

Cloud, DevOps & Tools: AWS, GCP, Git, Docker, CI/CD (GitHub Actions)

Methodologies: Agile methodology, Cross-Functional Collaboration, Problem Solving, Continuous Learning

EXPERIENCE

AI/ML Engineering Intern – Centre of Excellence in AI & ML   Jan 2025 – Nov 2025
GHRCE, Nagpur

- Delivered end-to-end ML solutions across multiple projects involving medical AI, computer vision, and generative models, implementing production-ready data pipelines and real-time evaluation frameworks
- Built scalable preprocessing systems and model deployment workflows, collaborating with cross-functional teams to establish performance monitoring and versioning protocols

KEY PROJECTS

Medical Safety LLM – AlpaCare

- Fine-tuned medical LLM using LoRA and 4-bit quantization, reducing memory usage by 75% while maintaining response quality and achieving 60% inference latency improvement
- Implemented automated safety validation and performance monitoring, achieving 100% safe-response compliance across 500 and more test cases with continuous feedback mechanisms

AI-Powered Virtual Try-On System (Saree-Centric)

- Engineered end-to-end virtual try-on solution combining Stable Diffusion, ControlNet, and computer vision techniques
- Integrated OpenPose for pose estimation and U-Net architectures for human parsing and garment segmentation
- Optimized model architecture achieving 52% LPIPS improvement and 44% FID reduction over baseline methods

EDUCATION

B.Tech – Computer Science & Engineering (AI & ML)   2022 – 2026
G.H. Raisoni College of Engineering, Nagpur   *CGPA: 8.82 / 10*

- **Relevant Coursework:** Machine Learning, Deep Learning, Applied Statistics, NLP, Computer Vision

Higher Secondary Certificate (HSC)   2022
Maharashtra State Board   *84%*

Secondary School Certificate (SSC)   2020
Maharashtra State Board   *91%*

ACHIEVEMENTS

Secured 1st Rank in the department during 3rd Year (SGPA: 9.32)

National Finalist in ISRO Bharatiya Antariksh Hackathon 2025

Winner – Technical Model Presentation, NIT College (2025)

Winner – Research Competition, Datta Meghe College (2025)

Oracle Cloud: Generative AI Professional Certified (2025)

Deloitte: Technology Virtual Job Simulation (Forage, 2024)

Mentored 1000 and more students, facilitating workshops and managing media outreach at Optiverse