

# Vishesh Shekhawat

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## Projects

**Denoising Diffusion Probabilistic Model (DDPM)** [GitHub] *PyTorch*

- Implemented full DDPM pipeline with UNet-based noise predictor; designed linear and cosine  $\beta$ -schedules.
- Conducted experiments on sampling steps to improve convergence stability and visual fidelity.

**Stable Diffusion (Text-to-Image Generation)** [GitHub] *PyTorch*

- Reimplemented Stable Diffusion with CLIP encoder, latent UNet, and VAE; built complete latent inference pipeline.
- Applied classifier-free guidance for improved prompt alignment and generation quality.

**VoyageAI – Agentic AI Trip Planner** [GitHub] *Python, LLMs, API Integration*

- Built agentic AI system generating real-time, budget-aware travel itineraries using weather, attraction, hotel, and currency APIs.
- Implemented multi-tool orchestration, reasoning-based planning, and automated cost aggregation.

## Education

**M.Tech in Artificial Intelligence (Generative AI)** 2025 – Present  
National Institute of Technology, Jalandhar CGPA: 8.78 / 10

**B.Tech in Computer Science and Engineering** 2020 – 2024  
Sobhasaria Group of Institutes, Rajasthan CGPA: 8.45 / 10

## Achievements / Certifications

- Solved 300+ DSA problems on LeetCode (Top 32% globally)
- Ranked #1844 on GateOverflow (99.91 percentile).
- Qualified GATE 2024 and GATE 2025.
- Linear Algebra for Machine Learning and Data Science – DeepLearning.AI (2025).
- Intermediate Machine Learning – Kaggle (2025).

## Skills

**Programming:** Python, C/C++

**Machine Learning:** Supervised & Unsupervised Learning, Model Evaluation, Feature Engineering

**Deep Learning:** CNNs, VAEs, GANs, Diffusion Models

**Generative AI:** DDPM, Stable Diffusion, Latent Diffusion

**Libraries:** PyTorch, TensorFlow, Scikit-Learn, NumPy, Pandas

**Core CS:** Data Structures & Algorithms