

# Mohana Krishna

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## SUMMARY

Innovative Backend Developer and Machine Learning Programmer with 1.5 years of experience in designing and deploying complex AI systems. Proficient in building serverless backends, training advanced diffusion models, and developing full-stack AI applications. Adept at leveraging modern frameworks like PyTorch, FastAPI, and Next.js to create cutting-edge agentic platforms, generative art tools, and secure communication apps. Seeking to contribute expertise in AI engineering to a challenging and forward-thinking team.

## TECHNICAL SKILLS

- Programming Languages:** Python, Rust, TypeScript, SQL
- AI/ML Frameworks:** PyTorch, LangChain, LangGraph, PydanticAI, Stable Diffusion, Hugging Face
- Backend & Tools:** FastAPI, Serverless Architecture, Docker, Ollama, SurrealDB, Git
- Frontend:** Next.js, React, Tailwind CSS v4, Shadcn/UI, Tauri
- Monitoring & DevOps:** Weights & Biases (WandB), TensorBoard

## EXPERIENCE

- Backend Developer & ML Programmer**  
*Kliky.ai*

Feb 2023 – Aug 2024  
*Kuwait*
- Engineered a robust serverless backend for a high-traffic image generation service.
  - Trained a novel Mixture-of-Experts (MoE) Stable Diffusion model with a custom attention mechanism, significantly improving image sharpness and overall sample quality.
  - Developed a web scraper to collect high-resolution images and built a data-cleaning pipeline using a custom-trained image aesthetics classifier to curate the training dataset.
  - Curated and managed a public art gallery exhibition at Al-Hamra Tower, showcasing images generated by the proprietary AI model.

## PROJECTS

- Autonix – Agentic AI Platform**  
*FastAPI, LangGraph, PydanticAI, Next.js, Shadcn/UI*

Ongoing  
*Unified AI Services*
- Developing a multi-featured AI platform including a ChatGPT-like assistance interface, automated data extraction and enrichment tools, and agentic chatbot services for customer care.
- NeuroArt – Advanced Image Generation App**  
*Python, ComfyUI, PyTorch, FastAPI, Next.js*

Ongoing  
*Generative AI*
- Built a user-friendly application leveraging ComfyUI as a backend, with a dynamic template-based workflow builder for easy integration of new models and pipelines.
  - Implemented a modified perturbed attention guidance with NAG to enhance performance of Multi-Modal DiT models like Flux.
  - Integrated a 2-pass high-resolution upscaling system using GANs (ESRGAN) and provided comprehensive settings for fine-grained user control over the generation process.
- Novaflow – Local-First AI Chat Desktop App**  
*Rust, Tauri, Next.js, Ollama, SurrealDB*

Ongoing  
*Desktop Application*
- Created a desktop application for AI chat, prioritizing local inference with Ollama.
  - Designed with Rust and Tauri for a cross-platform, high-performance native experience, and utilized SurrealDB for efficient local message storage.
- Inscript – Versatile Steganography App**  
*Python, Cryptography Libraries*

Completed  
*Security*
- Developed a steganography application capable of hiding messages within images, audio, and video files with minimal detectability.
  - Implemented a novel "cascading encryption" scheme, stacking multiple algorithms for enhanced security, supporting over 20 encryption and 15 hashing algorithms.

EDUCATION

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Vellore Institute of Technology (VIT Bhopal)  
B.Tech in Computer Science and Engineering (AI/ML)

Bhopal, India  
Aug 2023 – May 2027