Mohana Krishna

+916381131277 | codexmohan@gmail.com | linkedin.com/in/codex-mohan | github.com/codex-mohan

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, 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   Feb 2023 – Aug 2024
Kliky.ai   *Kuwait*
- Engineered a robust serverless backend for a high-traffic image generation service.
- Trained a novel Token wise Mixture-of-Experts (MoE) Stable Diffusion model with a custom attention mechanism, significantly improving image sharpness and style generalization.
- 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

Horizon – Agentic AI Assistant   Ongoing
HonoJs, LangGraph, Langchain, Next.js, Shadcn/UI, Qdrant   *Agentic AI App*
- Horizon is a full-stack agentic AI platform that bridges large language models with local operating systems. Built with Next.js 16 and a LangGraph-powered backend, it enables users to execute system commands, automate browser interactions, manage files, and run code through natural conversation. Features multi-model support (OpenAI, Anthropic, Groq, Gemini, Ollama) and multi-modal capabilities including file attachments and image analysis. The architecture employs a stateful agent graph with human-in-the-loop tool approvals, persistent memory via Qdrant vector database, and containerized code execution for security.

NeuroArt – Advanced Image Generation App   Ongoing
Python, ComfyUI, PyTorch, FastAPI, Next.js   *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   Ongoing
Rust, Tauri, Next.js, Ollama, SurrealDB   *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.

Inscrypt – Versatile Steganography App   Completed
Python, Cryptography Libraries   *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

Vellore Institute of Technology (VIT Bhopal) Bhopal, India
B.Tech in Computer Science and Engineering (AI/ML) *Aug 2023 – September 2027*