Pragadeesh KMS

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Salem, TN, India
LinkedIn | Portfolio

Objective

Highly motivated professional with hands-on experience in **diffusion models** and **large language models**. Passionate about building real-world **generative AI** applications and solving challenging problems through innovative **AI solutions**.

Education

S.R.M Institute of Science and Technology — Chennai, TN, India
B.Tech in Computer Science and Engineering; ***CGPA: 9.23*** — *Sept 2020 – Jun 2024*

Coursework: Data Structures and Algorithms, Operating Systems, Artificial Intelligence, Database Systems, Computer Architecture, Compiler Design, Linear Algebra, Statistics, and Calculus.

Skills

- **Languages**: Python, React, Tailwind CSS, Node.js, SQL, Js, Typescript, PyTorch, Keras, Transformers, Diffusers.
- **Technologies**: Google Cloud Platform, Microsoft Azure, Docker, Open AI Playground, Hugging Face.
- **Research Areas**: Machine Learning, NLP, Deep Learning, Generative AI, 3D Geometry.

Experience

Unremot — Remote, IN
AI Engineer — *Feb 2024 – Jan 2025*

- Developed AI-bots and Co-pilots for **The Wadhwani Foundation**'s Ed-Tech platforms and collaborated in creating, training, and testing two AI Ed-Tech platforms tailored for student entrepreneurs and SME business owners.
- Designed advanced prompting strategies, including **COT, TOT, ReAct, Reflexion, Self-consistency** and **multi-agent** methods, improving system robustness and preventing prompt hacking.

SOUL AI — Remote, IN
AI Prompt Engineer — *Sept 2023 – Jan 2024*

- Trained a state-of-the-art large language model (LLM) using Reinforcement Learning with Human Feedback **(RLHF)**, achieving **over 90%** accuracy in user responses.
- Applied expertise in Computer Science and Mathematics, to develop an AI tutor optimized for educational applications.

Projects

- **Unified Research Assistant**: Built a collaborative research papers platform using **Llama 3.1** and **LangChain**, with **Arxiv** and **Semantic Scholar APIs**. Integrated **Supabase** for secure storage and management of user data.
- **Tenant Management System**: Developed a full-stack tenant management system. Integrated real-time data storage using **Firebase Authentication** and **Cloud Firestore** for secure logins.
- **3D Generation using Vision Transformers**: Built a **ViT**-based pipeline to generate high-fidelity **3D textures** from a single 2D image using **NeRF** for volumetric reconstruction, **VAE** and **PEFT** for lightweight model adaptation, while optimizing for speed and memory efficiency. Trained on **Objaverse** dataset of 100k 3d objects.
- **Vision Guard**: Engineered a real-time Personalized Content Moderation tool using **RT-DETR**, **CLIP**, and **SAM-2** to detect and blackout screen content based on user-defined keywords, enabling content control and enhanced focus.
- **Dynamic AI Gaming with LLMs**: Developed a **real-time gaming framework** integrating **LLMs**, **RAG**, and **vector databases** to generate **adaptive NPC dialogue**, context-aware quest generation and gameplay.
- **Optimized Image Generation Pipeline**: Developed a image generation pipeline for **low latency** and **reduced memory footprint** using **float16 inference**, **FlashAttention**, and **accelerated denoising samplers**.

Thesis & Publications

- **Type Sculpt**: Text-to-3D Generation with Personalised Precision using Adaptive Attention Mechanism
  IRCCTSD'24 (Best Paper Award), Published in Springer Nature
- **Synergizing Creativity and Code**: A Quantum Leap in Game Development through Conversational AI

Extracurriculars

- **Machine Learning Specialization**: Coursera, 2024
- **ML-Ops Specialization**: Duke University, 2024.
- **Azure AI-900**: Microsoft, 2024.
- **Reinforcement Learning**: Hugging Face, 2023.
- **Speaker**: Led a team and delivered seminars on **AI, ML, and LLMs to high-school students.**
- **Leadership**: Headed **WHHC** and **ACE** club events and coordinated **DI Club** initiatives at SRM University.