+91 9561233236 | kedarsathe49@gmail.com | **LinkedIn** | GitHub | Google Scholar | Portfolio

KEDAR SATHE

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EDUCATION

SB College of Science, Aurangabad   2020-22
Vishwakarma Institute of Technology,Pune – B.tech(*Computer Engineering*) 7.8 *CGPA*   2022-26

EXPERIENCE

Open-Source Contributor, Mermaid   `present`
- Working as a collaborator for mermaid-js/mermaid, an open-source project with over 80k GitHub stars.
- Serving as an active project maintainer
- Resolved 8+ issues and successfully merged multiple pull requests

Machine Learning Engineer, Freelance   `Nov 2024 - present`
- Engineered and deployed comprehensive AI/ML solutions across 12+ projects, addressing complex challenges with diverse tech stacks.
- Built machine learning models with PyTorch and deployed them using MLOps techniques

ACHIEVEMENTS

- Paper Published: *Enhanced Railway Safety System – Published in IEEE*
- Eyantra 2023 (IIT Bombay): Ranked AIR 1 in Stage 1; top 10 globally in Stage 2.
- Paper Published: *Social Distancing ID Card – Published in a Scopus-indexed journal*
- Paper Published: *Alzheimer's Disease Diagnosis via SVM-Driven Classification of Structural MRI Data – Published in IJRASET*
- Certifications:
  - *Natural Language Processing & Deep Learning* – Certified by DeepLearning.AI
  - *Fundamentals of Deep Learning* – Certified by NVIDIA
  - *Cybersecurity Workshop* – Certified by Unstop

SKILLS

- **Programming Languages:** C/C++, Python, JavaScript
- **Cloud & DevOps:** Google Cloud Platform (GCP), Linux, Git, Docker, Kubernetes
- **Web Technologies:** React.js
- **Machine Learning & Deep Learning:** Data Science, ML/DL (PyTorch, TensorFlow), Computer Vision
- **Reinforcement Learning:** Deep-Q-Learning, RLHF, RLAIF, LLM training & fine-tuning (Unsloth, PEFT)
- **MLOps & Data Engineering:** MLOps, Data ETL & Preprocessing, ML Pipelines
- **Generative AI & LLMs:** LangChain, Hugging Face, LlamaIndex, Apache Spark

PROJECTS [Github]

• **LocalRaG – Retrieval-Augmented Generation Application**
GitHub
Stack: Python, Streamlit, Docker, LangChain, PostgreSQL, PgVector
- Developed a RAG system using LLaMA 3 (70B) and a local PostgreSQL vector store, improving knowledge retrieval efficiency by 30% without hallucinations
- Containerized the app using Docker and integrated a Streamlit UI, enabling seamless user interaction with sub-1s response latency for 90% of queries
- Optimized PgVector indexing with HNSW, reducing query times by 25%

• **Snakes & The Golden Apple – AI-Powered Snake Game**
GitHub
Stack: Python, Deep Q-Learning, Pygame
- Developed a competitive AI Snake game using Deep Q-Learning with an 11-parameter state representing danger zones (straight, right, left), current direction, and apple position
- Defined a discrete action space (straight, right, left) and implemented a reward system: +15 for eating an apple, +0.5 for approaching food, –10 for collisions, and –0.3 for proximity penalties
- Trained the agent using experience replay and an ε-greedy policy to optimize learning and game performance

• **Pelvix – Multimodal AI Chatbot Live Link**
- Built a multimodal AI chatbot platform that supports both text and image generation, enabling dynamic, personality-driven conversations
- Integrated **DeepSeek-R1** for real-time conversational responses and **Flux** for generating high-quality AI visuals
- Designed a retro-themed UI with three customizable themes; focused on privacy with **no data storage**, **session-only chats**, and **no tracking**
- Achieved **99.9% uptime**, with image generation completed in under 10 seconds for over 95% of requests