

Sanatan Khemariya

📞 7898009986 — ✉️ sanatankhemariya@gmail.com — 🌐 linkedin.com/in/sanatank — 🏠 github.com/sanatren

Education

Jaypee University of Engineering and Technology
Bachelor of Technology in Computer Science and Engineering

August 2022 - Present
Guna, India

IIT Guwahati (Certification Program)
Credit-Linked Program in Data Science

Jan 2025 - Present
Guwahati, India

Key Courses: Operating Systems, Computer Networks, Data Structures, Algorithms, Machine Learning, Databases

Certifications

- **Kaggle** – Pandas for Data Analysis | [Link](#)
- **Tata Technologies** – Introduction to Generative AI | [Link](#)

Skills

Frameworks FastAPI, Langchain, OpenAI SDK
Libraries Pytorch, Tensorflow, Scikit-learn, cv2, numPy, Pandas,
Languages Python, C++ , Swift

OS MacOS, Windows
Databases PostgreSQL, MySQL
Tools Xcode, Git, Github, Cursor AI, Google colab ,
langflow, Hugging Face, Vector DB

Projects

Azazel - Supercharging Legacy Models

LLMs, OpenAI,FAISS, LangChain, Streamlit

— Project Link

- Built an AI toolkit that transforms legacy language models into multimodal assistants capable of text generation, image analysis, code execution, and real-time web search
- Integrated GPT-4o-mini vision with LangChain RAG and FAISS vector storage, improving response accuracy by 25% on complex user queries.
- Reduced API costs by 30% through efficient prompt engineering, dynamic model switching, and caching strategies
- Developed an interactive Streamlit interface with multilingual support, speech-to-text input, document chatting, and advanced contextual memory for seamless user experience

Easy-Notes - Effortless Writing

FastAPI, TensorFlow, Transformer, Supabase

— Project Link

- Designed a AI-powered note-taking platform that enhances writing experience with text suggestions and translation
- Trained an LSTM-based next-word prediction model achieving 66% accuracy for enhanced writing experience
- Developed and fine-tuned a Transformer-based English to Hindi translation model reaching 94.6% translation accuracy
- Optimized PostgreSQL database architecture with Supabase, reducing query response times by 25%
- Engineered RESTful API endpoints with FastAPI, Uvicorn & Jinja2 templates for seamless frontend-backend integration
- Implemented low-latency ML model serving with average prediction time under 100ms for real-time text suggestions.

ChurnMonitor

ANN, Keras, Scikit-learn, Numpy, Pandas

— Project Link

- Built an system to predict customer churn in the banking sector, helping businesses identify at-risk customers
- Engineered machine learning model achieving 87% accuracy in predicting customer churn for the banking sector
- Trained and validated model on 50,000+ customer records with comprehensive feature engineering
- Created interactive Streamlit dashboard delivering real-time insights and visualization of key churn prediction factors.
- Developed automated data preprocessing pipeline reducing data preparation time by 20%.

Experiments and Research

Legal Document Analyzer – Prototype Transformer

PyTorch, Reinforcement learning, NLP, HuggingFace

— Project Link

- Built a prototype Transformer model for summarizing Indian & UK legal docs with a custom BPE tokenizer (50k vocab).
- Implemented core modules: Multi-Head Attention, Positional Encoding, Encoder-Decoder architecture.
- Trained on 592k+ samples with teacher forcing, LR scheduling, and early stopping.
- Fine-tuned using PPO in a custom Gym RL environment with ROUGE/BLEU-based rewards.

Achievements

- Solved **300+ LeetCode** problems, demonstrating strong problem solving and algorithmic skills.
- Led a team to the **National Tata Innovant (Genrative AI Hackathon)**, being the only selected team from Madhya Pradesh out of 2600+ Teams.