Sanjay S

+91 9360048067 | sanjaysabapathi0@gmail.com | LinkedIn | LeetCode | GitHub

Pre-Final-year engineering student specializing in Artificial Intelligence and Machine Learning, with a strong foundation in machine learning algorithms, core Java, data structures, and problem-solving techniques. Seeking an Applied Scientist Intern role to design, experiment, and optimize machine learning models for real-world impact and continuously grow in a challenging, growth-oriented organization.

Education

Bachelor of Technology **–** Artificial Intelligence and Machine learning **--** Panimalar engineering college | [3 year] ,cgpa[7.9/10]

Class XII – State Board, Christ King Matriculation Higher Secondary School | [2023], Percentage: 78%

Class X – State Board, Christ King Matriculation Higher Secondary School | [2021], Percentage: pass

Technical Skills

- **Programming Languages**: Java, Python
- **Databases**: MySQL , MongoDB , JDBC
- **AI/ML Frameworks & Libraries**: TensorFlow, PyTorch, Scikit-learn, NumPy, Pandas
- **Data Structures & Algorithms** : Arrays, Trees, Graphs, Sorting, Binary Search, Dynamic Programming (700+ problems solved)
- **AI/ML & Deep Learning** : Classification, Regression, Neural Networks, CNN , RNN ,Transformers .
- **Tools & IDEs** : IntelliJ IDEA, VS Code , GitHub

Projects

College Information Chatbot (RAG-Based)

- Designed and implemented a Retrieval-Augmented Generation (RAG) system for answering academic and administrative queries.
- Integrated LLaMA 3 (8B parameter) pretrained model for context-aware response generation.
- Implemented document chunking, embedding generation, and vector similarity search for semantic retrieval.
- Conducted experiments on chunk size and retrieval strategy to improve response relevance.
- Reduced hallucinations through prompt engineering and retrieval filtering.
- Designed an end-to-end inference pipeline including preprocessing, embedding, retrieval, and response synthesis.

Streak Tracker Web Application

- Developed a task-based streak tracking application to help users add activities and monitor daily consistency using Java and database integration
- Implemented streak calculation, progress tracking, and automatic reset logic based on user activity

Food Image Classification

- Built and fine-tuned a pretrained **EfficientNet-B0** model for multi-class food image classification.
- Performed data preprocessing including resizing, normalization, augmentation, and stratified train-validation split.
- Applied transfer learning and fine-tuned final layers to improve domain-specific performance.
- Tuned hyperparameters such as learning rate, batch size, and optimizer to optimize validation accuracy.
- Evaluated model using Accuracy and F1-score to handle class imbalance.
- Deployed the trained model using Flask for real-time inference through a web interface.

KAGGLE & LLM EXPERIMENTATION

- Participated in Kaggle machine learning competitions involving structured and image datasets.
- Performed exploratory data analysis (EDA), feature engineering, and data preprocessing.
- Built and evaluated models using cross-validation and hyperparameter tuning techniques.
- Applied transfer learning using EfficientNet-B0 for image classification tasks.
- Evaluated model performance using Accuracy, F1-score, and validation metrics.
- Experimented with Large Language Models (LLMs) including **LLaMA 3 (8B)** for retrieval-augmented generation tasks.
- Implemented embedding-based semantic retrieval and prompt engineering techniques.
- Conducted experiments to optimize chunk size, retrieval strategy, and response quality in RAG pipelines.
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ACHIEVEMENTS

• Winner – National-Level Machine Learning Competition at Chennai Institute of Technology Symposium (2026).

• Secured 2nd Prize in National-Level Coding Contest at Chennai Institute of Technology Symposium (2025), competing against participants from multiple institutions across India.

CERTIFICATIONS

- TensorFlow for Deep Learning Bootcamp – Udemy | 2025
- TensorFlow 2: Deep Learning & Artificial Intelligence – Udemy | 2026
- The LLM Course: Fine-tuning Language Models – Hugging Face | 2026

SOFT SKILLS

- Communication , Time Management , Problem Solving , Self-Learning , Teamwork ,