

WORK EXPERIENCE

Research Internship: ESIEA Paris, France (Remote)

January 2025 - June 2025

Facial Emotion Recognition Using Advanced YOLO Architectures



- Achieved **93.4% mAP@0.5** using dual YOLO frameworks (YOLOv12 + YOLOv11) for **22-class** facial emotion recognition on CFE dataset under Prof. Khadija SLIMANI.
- Implemented **automated annotation pipeline** reducing manual effort by **90%** and fine-tuned models via transfer learning from MS COCO pre-trained weights.

PROJECTS

Grand Plaza: Voice AI Hotel Concierge System

FastAPI, LangGraph, Pipecat, ChromaDB

Built a full-stack voice AI concierge achieving 88% accuracy in menu query understanding



- Architected a **multi-strategy RAG system** achieving **88%** query accuracy, **outperforming naive RAG** by 4.8% through semantic search, reranking, and Chain-of-Thought reasoning.
- Implemented **LangGraph**-based agent workflows with **5+ specialized nodes**, reducing conversation errors by 15% through **structured intent classification** and validation.

Career Scout: Voice AI-Powered Job Search Assistant

Next.js, React, Supabase, TypeScript, MCP Server

Developed a full-stack Voice AI Career Coach for smart job search



- Architected a custom MCP server with 3 tools: *Intelligent Job Search*, *Company Analysis*, and *Web Search*.
- Integrated custom scoring logic to match user skills with confidence percentages.
- Built a responsive, Supabase-authenticated frontend with React hooks and Tailwind CSS, reducing voice interaction latency by 40%.

The AI Scientist: Sakana AI

Python, LLMs, Transformers, Git

Contributed to Sakana AI's Open Source project to automate scientific research.



- Added 8 open-source language models, achieving a 75% reduction in generation costs.
- Adapted the project for T4 GPU support, reducing reliance on high-end GPUs like H100/A100.
- Co-authored a paper: "*Exploring Style Transfer with Small Character-Level Transformers*" using Qwen2.5(72B).

Development of Python Module: XS

Python, Ngrok, API Creation

Published a pip package to expose inference endpoints for open-source LLMs.



- Released a Python package to create accessible endpoints for over 99% of Hugging Face-hosted LLMs.
- Leveraged Ngrok to tunnel requests from localhost to the cloud securely.

TECHNICAL SKILLS

- Programming Languages:**
Python, Next.js, React, JavaScript, C, C++, SQL, Matlab, R
- AI and LLM Tools/Frameworks:**
LangGraph, LangChain, LlamaIndex, Ollama, HuggingFace Transformers, PyTorch, TensorFlow, Pipecat
- Data Analysis and Visualization Tools:**
Pandas, Numpy, Seaborn, Power BI
- Miscellaneous Skills:**
Linux, MacOS, Competitive Programming
- Soft Skills:**
Leadership, Communication, Problem Solving

RELEVANT COURSEWORK

- Core Computer Science:**
Object Oriented Programming, Database Management System, Computer Architecture Organization, Computer Network, Operating System, Data Structures and Algorithms
- Artificial Intelligence and Data Science:**
Artificial Intelligence, Data Visualization, Pattern Recognition and Machine Learning, Natural Language Processing
- Mathematics and Theoretical Foundations:**
Theory of Computation, Cryptography and Network Security

ACHIEVEMENTS

Indian Institute of Management (Data Analyst) Hackathon Winner, 2024

2024

8 hour long Hackathon, organized by InFED at Nagpur on 12 November 2024



- Won 1st place by presenting a solution to the Startup's Problem: **AI Product Comparison**.
- Implemented the Deep-Reserach & generated a report on **AI Product Comparison (22-page report)** using a Python-based AI Agent with Tavily Search, significantly reducing manual effort and time by 90%.

ACHIEVEMENTS

HackLLM 2025 @ IIIT Delhi (Esya'25) – 3rd Place Winner

August 2025

24-hour Large Language Model Hackathon with 250+ participants, 1.64L prize pool



- **Built production-ready medical AI summarization system** generating dual-perspective outputs (patient + clinician) from scratch in 24 hours without external APIs, securing **top-3 finish among 80+ teams**.
- Architected modular Python system with **BART-large-CNN fine-tuned on medical Q&A data**, achieving perspective-aware content categorization (Information/Suggestion/Experience/Cause) with regex pattern matching.

EDUCATION

Bachelors of Technology (Hons.) CSE Data Science

2022-Present

(6th Semester) Chhattisgarh Swami Vivekanand Technical University, Bhilai, 491107

CGPA : 7.2/10

- Research Internship at ESIEA Paris, France (Remote) under the project "Complex Human Emotion detection with Ultralytics YOLO11" - Completed June 2025.