

PURUSHOTHAMAN N

Tiruvannamalai, Tamil Nadu

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Objective

Motivated AI Engineer with 1 year 8 months of experience in Machine Learning, Deep Learning, Natural Language Processing, and Python-based backend development. Experienced in developing AI-powered systems such as emotion detection, sentiment analysis, and sign language recognition. Skilled in training machine learning models, building REST APIs using Django REST Framework, and integrating AI models with backend applications and databases.

Education

M.Sc Data Science and Business Analysis

2022-2024

Rathinam College of Arts & Science

Coimbatore

B.Sc Mathematics

2019-2022

Shanmuga Industries of Arts & science college

Tiruvannamalai

Work Experience

SmartX Technologies

Bengaluru

Software Engineer (1 year 8 months)

August 2024 – Present

- Built EmoSentia, a real-time emotion and sentiment detection system analyzing video, speech, and text using Python, DeepFace, and NLP — achieving synchronized multi-modal emotional feedback with high accuracy.
- Engineered LLM-powered applications using structured prompt engineering techniques to automate AI-based recipe generation and content generation, reducing manual effort and delivering context-aware, automated outputs.
- Architected and deployed AptPath, a scalable web application with Django REST Framework, delivering robust API endpoints and secure backend architecture for seamless user interactions.
- Optimized and maintained database systems including PostgreSQL, MySQL, and MS SQL — managing user roles, privileges, and data integrity to ensure high performance and reliability

Projects

Sentiment Analysis API System | Python, NLP, Django REST Framework

February 2026

- Engineered a production-ready ML sentiment analysis system classifying text into positive, negative, and neutral categories using NLP preprocessing (tokenization, stopword removal, vectorization) with Scikit-learn.
- Deployed secure REST APIs for real-time sentiment prediction via Django REST Framework, including authentication endpoints (Register, Login, Logout) enabling seamless integration with web applications.

EmoSentia: Real-Time Emotion Detection System | Deep Learning, Python, Machine Learning, Hugging Face

August 2024

- Designed a real-time multi-modal system that analyzes facial expressions and speech from video to predict emotions and sentiment, integrating computer vision and NLP for synchronized emotional state feedback.

Sign Language Recognition Web-App | Python, Deep Learning

November 2024

- Developed a Bi-directional LSTM-based web application that captures and translates sign language from video into text in real-time, improving accessibility and communication for hearing-impaired users.

Agri Watch | Excel, Python, Machine Learning

March 2024

- Built an LSTM forecasting model using Python (NumPy, Pandas, Scikit-learn) to predict flower prices and demand, empowering farmers with data-driven insights for informed decision-making.
- Delivered interactive data visualizations using Excel, Seaborn, and Matplotlib, improving forecast interpretability and stakeholder communication.

Technical Skills

Machine Learning & AI: Deep Learning (Bi-LSTM, CNN), Natural Language Processing (NLP), LLM integration, Prompt Engineering

Frameworks: Django, Django REST Framework

Languages & Libraries: Python & NumPy, Pandas, Scikit-learn

Database: MySQL, Postgres SQL, MS - SQL

Data Analysis & Visualization Tools: Excel, Power BI, Tableau

Certificates

- Machine Learning with Python
- Data Analytics Essentials

May 2024

March 2024