Aravindkumar B

Python Developer | Machine Learning Engineer

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Theni,TamilNadu

LinkedIn | GitHub | Portfolio

Professional Summary

Machine Learning Engineer with experience in designing, training, and deploying deep learning models for NLP and Computer Vision. Proficient in Python, PyTorch, TensorFlow, and Flask. Expertise in building end-to-end ML pipelines, RESTful APIs, and deploying apps on cloud platforms. Strong background in model evaluation, data preprocessing, and real-time ML applications using Stream lit, OpenCV, and Firebase.

Technical Skills

• Languages: Python, HTML, CSS, JavaScript, SQL

• Frameworks/Libraries: TensorFlow, Keras, PyTorch, Scikit-learn, OpenCV, Media Pipe, NLTK

• Tools & Platforms: GitHub, Jupyter Notebooks, VS Code, Stream lit, Flask, Power BI

• Data Handling: Pandas, NumPy, Matplotlib, Seaborn

• Cloud & Deployment: Streamlit Cloud, Firebase Authentication

Projects

Pose Mate | AI Yoga Guide & Analyzer GitHub

• Developed a full-stack AI system using real-time pose estimation (MediaPipe + OpenCV) to analyze user yoga videos and provide personalized feedback.
• Integrated AI-guided instructional videos with audio-visual support and a posture evaluation pipeline using landmark and angle-based metrics.
• Achieved 93% accuracy in pose detection and delivered real-time processing with <1 sec/frame latency.
• Implemented Firebase-based Gmail login and responsive frontend with video input options.
Technologies: Python, OpenCV, Flask, MediaPipe, Streamlit, Firebase, HTML, CSS, JavaScript

NeuroScan | Brain Tumour Detection & Patient Support System GitHub

• Designed a CNN-based medical imaging app that detects brain tumors from MRI scans with 94%+ accuracy.
• Created a secure donor-patient communication system and integrated Grad-CAM for explainability.
• Deployed user-friendly web interface for predictions and treatment resources, accessible via Streamlit Cloud.
Technologies: Python, TensorFlow, CNN, Flask, OpenCV, Grad-CAM, Streamlit, HTML/CSS

Mini Projects

Voice2Hindi | Real-Time English to Hindi Voice Translator GitHub

• Built a speech-enabled translation app converting English speech to Hindi text/audio in real time.
• Combined gTTS, Speech Recognition, and Deep Translator for robust translation pipeline.
Technologies: Python, Flask, gTTS, Deep Translator, SpeechRecognition, HTML/CSS, JavaScript

Publications

"Data-Driven Analysis of Morbidity and Mortality Disparities Using ML and Big Data", IEEE ICDCC 2024
Link: https://ieeexplore.ieee.org/document/10960975

Academic Background

B.Tech in Artificial Intelligence and Machine Learning

Kalasalingam University, Tamil Nadu | 2021–2025 | CGPA: 7.9/10

Higher Secondary Certificate (HSC)

Sri Valli Varadharaj Matric Hr. Sec. School | 2020–2021 | Percentage: 83%

Certifications

• Python Programming Certificate – CSE Institution (2021)

• Machine Learning – IBM via Coursera (2024)

• Power BI Basics – Skill Up/Simplilearn (2025)

Languages

English: Fluent | Tamil: Native Speaker | German – Basic