Manas Pandya

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Summary

AI and Data Science student with strong experience in deploying deep learning systems for medical imaging, speech recognition, and real-time video analysis. Published researcher in NLP for African languages. Comfortable with embedded AI (Raspberry Pi), lightweight inference, and model quantization. Interested in signal-centric ML systems.

Education

Program	Institution/Board	%/CGPA	Year
Bachelors (Data Science & AI)	IIT Madras, Zanzibar Campus *Zanzibar, Tanzania*	**8.34/10**	2023 – Present

Experience and Projects

Experience

Deepfake Detection (IEEE SPS Cup 2025)
Oct 2024 – Jan 2025
Participated in IEEE's SPS Cup challenge. Built deep learning pipelines for detecting facial manipulations in-the-wild using transfer learning and robustness techniques.
Keywords: Deepfake, Computer Vision, Face Detection

UYIR Roadsafety Hackathon (IEEE)
Dec 2024 – Mar 2025
Developed a real-time ML-CV system for identifying in-cabin driver risk behaviors. Collaborative effort guided by IEEE and academic mentors.
Keywords: Road Safety, Driver Monitoring, Computer Vision

Speech Emotion Recognition (Project Assistant)
Mar – Jun 2024
Assisted in designing lightweight SER models with quantization strategies and Librosa features. Targeted for real-time emotion inference on edge devices.
Keywords: SER, Quantization

Projects

Kaggle ISIC 2024 Challenge - Top 7%
Jun – Sep 2024
Ranked 178/2739 globally in this medical image classification challenge. Built and fine-tuned CNNs for accurate skin lesion classification.
Keywords: CNN, Medical Imaging

Shaastra AI/ML Techathon (Winner)
Apr – May 2024
Led a winning team in IIT Madras's AI/ML competition. Worked on LSTM-based time series models to forecast COVID-19 mortality.
Keywords: LSTM, Time Series Forecasting, Hackathon

Industrial Cast Classification (Collab)
Dec 2023 – Feb 2024
Co-developed an ensemble-based ML classifier to automate defect detection in cast manufacturing.
Keywords: Ensemble Learning, Binary Classification, Manufacturing AI

I have also been active on kaggle, click here to view the various competitions in which I have participated.

Publications

1. Fine-tuning Whisper Tiny for Swahili ASR: Challenges and Recommendations
To appear in ACL AfricaNLP Workshop 2025
Authors: Avinash Kumar Sharma, **Manas R Pandya**, Arpit Shukla
Fine-tuned Whisper Tiny (39M) on Swahili audio data to evaluate ASR performance in low-resource Bantu languages.
Keywords: Whisper, Swahili, ASR, WER, Agglutinative Languages

2. Swahili News Classification: Performance, Challenges, and Explainability Across ML, DL, and Transformers
To appear in ACL AfricaNLP Workshop 2025
Authors: Manas R Pandya, Avinash Kumar Sharma, Arpit Shukla
Benchmarked ML and transformer models (AfriBERTa, XLM-R) on Swahili news, highlighting performance gaps and explainability with SHAP/LIME.
Keywords: Text Classification, Transformers, Explainable AI, Low-Resource NLP

Positions of Responsibility

○ Designed and hosted a 2-week hackathon for 25+ juniors using NASA Kepler data to teach foundational ML pipelines via notebooks (Nov 2024 - Dec 2024).
○ Board member at Entrepreneurship Cell, IIT Madras Zanzibar (Jan 2024-Present).

Technical Skills

○ AI/ML: Deep Learning, Computer Vision, Image processing, LSTM

○ Programming Language: Python, Bash

○ Operating System: Windows, Linux (Kali, Ubuntu)

○ Tools: Git, Jupyter, Latex, Visual Studio Code

Certifications

○ Shaastra AI/ML Techathon: *Winning the Techathon* (April 2024)

○ Wayspire: *AI basics* (May 2024)

Others

○ Interests:
  ○ Cybersecurity (ethical hacking, Wi-Fi penetration testing).
  ○ Robotics (worked with Raspberry Pi, Arduino, Pi Pico)
  ○ Edge Computing.

○ Hobbies: Chess, Badminton, Visual Art, Acoustic Guitar

○ Languages: English, Hindi, Gujarati, Tamil, Spanish (Beginner), Russian (Just started)

Last Updated: April 18, 2025