Mishal Muhammed E P

Data Scientist

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Professional Summary

Data Scientist with 1 year of hands-on experience in designing, developing, and deploying end-to-end machine learning solutions for real-world business applications. Strong proficiency in Python, data analysis, feature engineering, and predictive modeling across structured and unstructured datasets. Practical experience in NLP, computer vision, and speech-based AI systems, with the ability to build and deploy scalable applications using Flask and REST APIs. Adept at translating business requirements into data-driven insights and delivering reliable, production-ready data science solutions.

Technical Skills

- **Languages:** Python, SQL, R, HTML,C

- **ML/AI Libraries:** Scikit-learn, Pandas, NumPy, TensorFlow, Keras, PyTorch, Matplotlib, Seaborn, XGBoost

- **Natural Language Processing:** NLTK, spaCy, BERT, LLaMA

- **Speech Technologies:** Whisper, Wav2vec 2.0, Google STT/TTS, WaveGlow

- **Reinforcement Learning:** Stable-Baselines3, RLlib, OpenAI Gymnasium

- **Frameworks:** Flask, Streamlit.

- **Deployment/Tools:** GitHub, Jupyter, Render.

- **Data Visualization:** Tableau, Power BI

- **Concepts:** Regression, Classification, NLP, Computer Vision, Reinforcement Learning, Data Analysis, Artificial Intelligence(AI), Machine Learning(ML), Deep Learning(DL)..

Work Experience

Data Science with Gen AI
RP2   January 2025 – November 2025

- Implemented computer vision and speech processing pipelines using Python and open-source frameworks for real-time data analysis and feature extraction.

- Developed and deployed both personalized and generalized conversational AI chatbots capable of handling dynamic, real-time queries with NLP and context-aware response generation.

- Built full-stack web applications integrating AI/ML models with Flask backend and interactive front-end interfaces for seamless user interaction.

- Designed, trained, and optimized machine learning and deep learning models to solve business-specific problems, including predictive analytics, classification, and recommendation tasks.

Internship

- **AI-ML Intern – IBM SkillBuild via CSRBOX**
  Built ML workflows, performed model evaluation, and prepared deployment-ready pipelines.

- **Full Stack Web Developer – Techbyheart**
  Developed backend services and data-driven dashboards using Python, Flask, and HTML/CSS.

- **Web and Graphic Design Intern – Codedesign**
  Applied UI/UX practices to design and prototype responsive front-end interfaces.

Education

Bachelor of Technology in Artificial Intelligence and Data Science

Jyothi Engineering College, Thrissur   2021 – 2025

Aggregate: 7.76 CGPA

Certifications

- Prompt Engineering – Dubai Future Foundation

- Deep Learning – NPTEL Certificate

- Machine Learning – IBM SkillBuild

- Blockchain, LaTeX, Data Analytics – NDLI Club

- Android Studio – Google Development Program

Projects

AI-Powered Real-Time Video Interview Chatbot

    Tech: React.js, FastAPI, Python, Google Cloud STT/TTS, OpenCV, Google Cloud Storage, Whisper, REST API.

Developed an AI-driven real-time video interview chatbot with multilingual transcription, facial expression analysis, speech scoring, and live interaction using WebSockets.

Capstone Project – EMG-Controlled Prosthetic Limb

    Tech: Python, Arduino, Butterworth Band-pass filters, Signal Processing, Classification Models

Developed a Python-based system to process EMG signals, extracted features (RMS, Zero-Crossing), applied classification models, and integrated with Arduino to simulate real-time prosthetic motor control.

Movie Recommendation System with Voice Search

    Tech: Python, Flask, SpeechRecognition API, TMDB API, Recommendation Algorithms

Implemented content-based and collaborative filtering recommendation engine, integrated voice-based input, and deployed an accessible Flask backend for dynamic movie recommendations.

HR Absenteeism Classifier

    Tech: Python, Scikit-learn, Random Forest, Logistic Regression, XGBoost, Power BI

Developed classification models to predict absenteeism, applied feature engineering, evaluated performance, and designed interactive dashboards for HR insights.

Publications

EMG-Controlled Prosthetic Limb

Published in the 11th International Conference on Smart Computing and Communications (ISCSS 2025)

IEEE Xplore: https://ieeexplore.ieee.org/document/11233613