Aman Kumar

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SUMMARY

Motivated and results-driven Data Science enthusiast with hands-on experience in machine learning, NLP, and cloud-based AI systems. Proven ability to develop intelligent solutions such as real-time emotion detection systems, custom chatbot platforms, and scalable pipelines using AWS. Strong problem-solving and collaboration skills; thrives in fast-paced environments with a continuous learning mindset.

AREAS OF INTEREST

Machine Learning — Deep Learning — Algorithms — Databases — NLP

TECHNICAL PROFICIENCY

Languages: Python
ML Frameworks: Scikit-learn, TensorFlow, Keras, PyTorch, XGBoost
Cloud: LocalStack
Web: Flask
Tools: Git
Databases: MySQL, MongoDB
Libraries: OpenCV, Transformers, Seaborn, Matplotlib

ACHIEVEMENTS

- 2nd Rank, Hackathon – International Conference: "Faith and Future: Integrating AI with Spirituality"
- 3rd Rank, Logicthon – International Conference: "Faith and Future: Integrating AI with Spirituality"

WORK EXPERIENCE

Data Science Intern, Zidio Development *Feb – Mar 2025*

- Contributed to an AI-powered Task Optimizer by integrating real-time multimodal emotion detection (vision, audio, text) to enhance employee productivity.
- Designed emotion recognition pipelines with OpenCV, Wav2Vec2, and NLP models, enabling mood-based task assignments.
- Co-developed a historical mood tracking system to support data-driven workplace well-being initiatives.

Data Science Intern, AssetPlus Consulting *June – July 2025*

- Worked on a live computer vision project for electricity meter phase detection to enhance utility asset management.
- Developed a computer vision-based system to detect meter phases (e.g., single-phase, three-phase) on electricity meters in real-time, addressing operational risks in utility management.
- Utilized OpenCV and deep learning frameworks like TensorFlow to train models for accurate detection under varying conditions.

MAJOR PROJECTS

Quiz Application *Feb – Mar 2025*

- A comprehensive web-based quiz platform developed for Dev Sanskriti Vishwavidyalaya using Flask and MongoDB.Key functionalities include hierarchical course management, dynamic quiz creation with timer-based assessments, automated result processing, and real-time analytics dashboard.
- The application supports bulk question uploads, intelligent student enrollment, and detailed performance tracking. Designed for educational institutions, it streamlines examination processes while maintaining academic integrity through secure, scalable architecture.

- Technical Stack: Python, Flask, MongoDB, Tailwind CSS, JavaScript

Speech Emotion Recognition using Deep Learning *Dec 2024*

- Built a deep learning model for speech emotion recognition using CNN and LSTM with MFCC and spectrogram features.
- Optimized the pipeline using TensorFlow/Keras and evaluated with accuracy and confusion matrix.
- Deployed a real-time prototype using microphone input for live emotion predictions with Matplotlib visualization.

KEY PROJECTS

Speech-to-Text Transcription Web App *Mar 2025*

- Built a Flask app for audio transcription using Google Speech API, supporting `.wav`, `.mp3`, `.flac`, and more.
- Handled audio normalization with Librosa and SoundFile; validated formats, logged issues, and returned JSON-based output.

Domain-Specific Chatbot (Gemini Pro + LangChain) *Jan – Feb 2025*

- Built a chatbot for solar system topics using Gemini Pro via LangChain, with input validation and structured output parsing.
- Enabled chat session management, likes/dislikes, and MongoDB-based user authentication with Flask-Bcrypt.

Multiformat Text Extraction using OCR *Jan 2025*

- Developed a Flask app to extract multilingual text from images and PDFs using Tesseract OCR with OpenCV preprocessing.
- Ensured secure uploads with size/type restrictions and stored results with metadata in MongoDB.

Weather Prediction using Machine Learning *Apr 2024*

- Built a regression pipeline using Scikit-learn to forecast rainfall and temperature from historical weather data.
- Applied data preprocessing using `ColumnTransformer` and trained models like Random Forest, SVR, XGBoost.
- Achieved MSE of 2.98, MAE of 1.35, and 91.77% accuracy using `GridSearchCV` and cross-validation.

EDUCATION

Degree	Institute	Year	CPI / %
Masters of Computer Application (Data Science)	Dev Sanskriti Vishwavidyalaya	*Present*	*Present*
Bachelor of Computer Application	Dev Sanskriti Vishwavidyalaya	2024	7.8 CGPA
Intermediate (CBSE)	Kendriya Vidyalaya H.F.C	2021	88.2%
Matriculation (CBSE)	Global Vision Academy	2019	89%

EXTRACURRICULAR ACTIVITIES

- Completed NCC with 'A' Grade.

CERTIFICATES

- DataScience Bootcamp on Udemy.
- Internship at Zidio Development as Data Science Intern.
- Internship at Assetplus Consulting as Data Science Intern
- AWS Digital Badges:
  - AWS Academy Graduate – Data Engineering
  - AWS Academy Graduate – Cloud Foundations
  - AWS Educate: Cloud 101, Compute, Storage, Networking, Databases, Cloud Ops, Security