Utkarsh Yadav

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SUMMARY

Innovative Data Scientist with strong foundations in ML, DL, NLP, and statistical modeling. Deployed scalable AI solutions using AWS, Docker, and Flask. Known for combining mathematical rigor with production-ready pipelines. Skilled in building end-to-end machine learning systems, from data preprocessing to deployment. Passionate about translating theoretical principles into efficient models.

EXPERIENCE

Data Science Intern   *April 25, 2025 – June 25, 2025*
Zidio Technologies   *Remote*

• Developed an end-to-end deep learning pipeline for image captioning and semantic segmentation, utilizing **CNN-LSTM** architectures for sequence generation and **U-Net/Mask R-CNN** models for pixel-level image segmentation, enabling accurate visual scene understanding.
• Improved image caption accuracy by **18%** using attention mechanisms and dataset-specific tuning **(MS COCO).**Increased segmentation **IoU** scores by **14%** through model optimization and data augmentation. Integrated both systems into a deployable web application using Flask.
• Executed a Time Series Forecasting project on stock market trends using **ARIMA**, Prophet, and **LSTM** models.Reduced **RMSE** by **12%** through model comparison and hyperparameter optimization. Created interactive dashboards with Plotly and Streamlit for real-time visualization.

Data Science & Analytics Intern   *April 20, 2025 – June 20, 2025*
Proxenix   *Remote*

• Participated in a structured internship focused on core data science competencies, including data preprocessing, feature engineering, data visualization, and predictive analytics using Python, Pandas, NumPy, and Matplotlib.
• Executed hands-on projects involving exploratory data analysis (EDA), statistical modeling, and supervised machine learning algorithms (e.g., Logistic Regression, Random Forest, SVM), incorporating model evaluation techniques such as cross-validation and ROC-AUC scoring.

PROJECTS

Object Tracking 🔗

• Enhanced real-time multi-object tracking performance by integrating **YOLOv5** for object detection and **DeepSORT** for robust tracking, improving frame-by-frame accuracy and minimizing identity switches in dynamic environments.
• Enhanced object detection accuracy by **15%** utilizing **Convolutional Neural Networks (CNNs)** and transfer learning methodologies, leading to a significant reduction in false positives for crucial object tracking tasks.

Sign Language Detection 🔗

• Engineered a real-time Sign Language Recognition system utilizing **OpenCV**, **Mediapipe**, and **TensorFlow**, achieving high precision in hand gesture tracking and classification for improved accessibility solutions.
• Designed and trained an **LSTM**-based deep learning model for sequential sign language recognition, applying time-series analysis and computer vision to achieve over **90%** accuracy on gesture datasets..

Speech Emotion Recognition 🔗

• Built a Speech Emotion Recognition system by extracting acoustic features with **Librosa** and training deep neural networks using **TensorFlow**, leading to a **20%** improvement in emotion classification accuracy..
• Engineered a **CNN**-based audio emotion classifier utilizing **MFCCs** and **spectrograms** as features, achieving precise multi-class emotion detection across varied speech datasets.

EDUCATION

Bachelor of Technology

Jaypee University of Engineering and technology Guna • Guna, Madhya Pradesh • 2026

SKILLS

C++, C, Java, Python, Machine Learning, Deep Learning, Natural Language Processing (NLP), Flask, Mongo DB, Computer Vision (Tensorflow, Keras, PyTorch), Statistics, MySQL, Git, Docker, AWS, Github

INVOLVEMENT

• **Flipkart Grid 6.0 (Software Development Track)**
Successfully completed round 1 and received an invitation from Flipkart for DSA round based on performance

• **GDSC Leadership Role**
Appointed as Google Developer Student Clubs **(GDSC)Co-ordinator(2024**), spearheading technical workshops, hackathons, and collaborative coding events to build a thriving community of student developers. Successfully shortlisted for Google Summer of Code **(GSoC)** 2024 from college, demonstrating strong proficiency in software development, open-source collaboration, and community engagement.