TUSHAR SAXENA

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EDUCATION

VIT Bhopal University   8.40
Bachelor of Technology in Computer Science and Engineering   *Oct 2022 - Present*

PERSONAL SUMMARY

Full-stack developer with expertise in ReactJS and modern web technologies. Passionate about building scalable, user-centric applications with optimized performance. Strong background in data structures, algorithms, and cloud computing. Experience in developing 5+ projects, collaborating on 10+ repositories on GitHub, and contributing to 3+ open-source projects. Successfully improved system efficiency by 30% in recent projects.

TECHNICAL SKILLS

Hard Skills: Predictive Modeling, Clustering Models, Data Modeling, Natural Language Processing (NLP), Artificial Neural Networks (ANN), Convolutional Neural Networks (CNN), Data Mining.
Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R.
Techniques: Statistical Analysis, Predictive Analytics, Machine Learning Algorithms.
Platforms: AWS, SalesForce, Google Cloud Platform.
Developer Tools: Git, Docker, Kubernetes, Tableau.
Relevant Coursework: Data Structures & Algorithms, Operating Systems, Object-Oriented Programming, Database Management Systems, Software Engineering.

PROJECTS

Stock Movement Analysis Based on Social Media Sentiment   Oct 2024 - Dec 2024
- Developed a predictive ML model analyzing sentiment from 2,000+ Reddit posts using NLP. Achieved 75% precision in forecasting stock movements and improved sentiment precision by 15% over benchmarks.
- Key Contributions:
    1. Data Scraping: Scraped stock market discussions from platforms like Twitter and Reddit using Python libraries (BeautifulSoup, Scrapy).
    2. Data Analysis: Performed sentiment analysis to extract key features like sentiment polarity and frequency of mentions.
    3. Prediction Model: Designed and trained a machine learning model to forecast stock price trends.
- Achievements   : Provided actionable insights with detailed evaluation metrics (accuracy, precision, recall) and improved sentiment prediction accuracy by 15%.

LSTM-Based CCTV Crime Prediction Model Using Deep Learning   Jan 2025 - April 2025
- Developed an end-to-end deep learning pipeline using LSTM, processing 10,000+ video frames from CCTV footage. Achieved 85% crime detection accuracy and reduced false positives by 18% through advanced pre-processing and model optimization.
- Key Contributions:
    1. Data Pre-processing: Extracted and pre-processed video frames using OpenCV, enhancing feature extraction and reducing noise for improved model input quality.
    2. Model Development: Designed and trained an LSTM-based neural network with TensorFlow and Keras, leveraging temporal sequence analysis to detect crime patterns.
    3. Model deployment: The model was deployed on AWS with a Streamlit interface for real-time crime prediction, ensuring scalability and user-friendly visualization.
- Achievements   : Delivered a robust model with an F1 score of 0.87, outperforming traditional methods by 30% in predictive accuracy and enabling scalable real-time crime detection.

CERTIFICATIONS

IBM: BLockchain Developer
ETHNUS: Salesforce Administrator
University of Michigan: Applied Machine Learning