KARTIKEY SHARMA

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CAREER SUMMARY:

Driven by a deep interest in Machine Learning, I pursued a Data Science Internship where I gained hands-on experience in applying machine learning and artificial intelligence techniques to solve real-world problems. I honed my skills in data preprocessing, feature engineering, and building predictive models using algorithms like regression, classification, and clustering. My work involved leveraging SQL for efficient data management and querying large datasets, while using tools such as TensorFlow, Scikit-learn, and Keras for model development. Additionally, I became proficient in data visualization using Tableau and Matplotlib to communicate insights effectively. Through this experience, I developed strong problem-solving abilities, working with cross-functional teams and improving decision-making systems with data-driven insights.

WORK EXPERIENCE:

iNFIQUE Ai SERViCES | Data Science Intern

- Analyzed large datasets using Python, SQL, and Excel to extract meaningful insights and present findings to support business decision-making.
- Built predictive models using machine learning algorithms like regression, classification, and clustering to forecast sales and customer behavior.
- Preprocessed and cleaned data from various sources to improve data quality, ensuring accurate results and reducing noise in datasets.
- Visualized data trends using tools like Tableau and Matplotlib, creating dashboards and reports that highlighted key performance metrics for internal stakeholders.

RELEVANT PROJECTS:

1. Precision Farming Using Machine Learning

- Developed a machine learning model to predict optimal crop yield based on historical weather data, soil conditions, and irrigation patterns.
- Utilized Random Forest and XGBoost models to achieve 92% accuracy in crop yield predictions.
- Integrated real-time weather updates using API calls and built a dashboard to visualize the results for farmers.
- Key Technologies: Python, Scikit-Learn, Pandas, Matplotlib, AWS, IoT devices.

2. AI-Powered Visual Quality Inspection for Defect Detection

- Objective: Develop an AI-powered visual inspection system using deep learning to detect product defects in real-time on manufacturing lines.
- Technologies Used: Implement Convolutional Neural Networks (CNNs) for image classification ;Deep learning, computer vision, real-time model deployment, and AI system optimization for industrial applications.
- Fit for Neuralia: The project aligns with Neuralia's focus on automating quality control and reducing defects in production, showcasing proficiency in AI-driven visual inspection solutions.

3. Image Classification for Healthcare (Pneumonia Detection)

- Designed a Convolutional Neural Network (CNN) to detect pneumonia from chest X-ray images, achieving 98% accuracy on test data.
- Preprocessed data using data augmentation techniques to enhance model robustness and prevent overfitting.
- Deployed the model using Flask as a web application for hospitals to perform real-time image classification.
- Key Technologies: TensorFlow, Keras, OpenCV, Python, Flask.

4.Stock Market Prediction using LSTM

- Developed a time-series forecasting model using Long Short-Term Memory (LSTM) networks to predict stock prices based on historical market data.
- Achieved 85% prediction accuracy by integrating technical indicators like Moving Average, Bollinger Bands, and MACD.
- Built an interactive visualization tool using Plotly to monitor real-time stock trends.
- Key Technologies: Python, TensorFlow, Keras, NumPy, Plotly, SQL.

EDUCATION:

2021 - 2025 | MNIT Jaipur
BTech-Metallurgical and Material Science Engineering

SKILLS:

- Programming Languages: Python,SQL
- Machine Learning: Supervised & Unsupervised Learning, Regression, Classification, Clustering, Reinforcement Learning
- AI Frameworks: TensorFlow, Keras, PyTorch, Scikit-learn
- Data Science Tools: Pandas, NumPy, Matplotlib, Seaborn
- Cloud Platforms: AWS, Google Cloud
- Version Control: Git, GitHub
- Other Tools: Jupyter Notebook, Docker,MLOps

ACHIEVEMENTS:

- Kaggle Competitions

1. Jane Street Real-Time Market Data Forecasting | (Live)
2. DataGeek Challenge in stock price prediction using ML models.
3. AURION-PRO:Member of team for Government Project :JAN AADHAR ,contributed to test-case allotment partwhich was the real-time database of Rajasthan, during Summer Internship.

BLOGS/ARTICLES:

- **"Hyperparameter Tuning: Optimizing Model Performance"**

A guide to Grid Search, Random Search, and Bayesian Optimization for fine-tuning models like XGBoost and Random Forest.

- **"LSTM Networks for Time Series Forecasting"**

Simplifying LSTM networks for stock predictions, with practical implementations using TensorFlow and Keras.

- **"CNNs for Image Classification"**

Exploring CNNs in image tasks, with tips on layers and pooling, demonstrated in PyTorch and TensorFlow.

- **"Feature Engineering: Enhancing ML Models"**

Key techniques like PCA, scaling, and one-hot encoding for improving model accuracy, using real-world datasets.

- **“Creating a Large Language Model for the benefit of Farmers on India”**

I wrote the entire blog of experience of solving the problem statement given by IT Company Nueralia.