Shivangi Tiwari

Data Scientist

Gmail- shivangitiwari501@gmail.com | Contact No- +91 8103292694

Linkedin- https://www.linkedin.com/in/shivangi-tiwari-98301226b | Address- Bilaspur, Chhattisgarh

Summary

Data Science and AI/ML Specialist with a robust analytical approach, proven experience in developing machine learning models, and integrating IoT solutions. Actively participated in International conferences, Hackathons, and published Research papers. Holds multiple certifications in AI, ML, and Data Science.Committed to continuous learning and applying data-driven decisions in IT environments.

Skills

Technical Skills: Pyhton, Artificial Intelligence , Machine Learning, Data Manipulation, Deep Learning, Data Visualization, Big Data Technologies, Cloud Computing, Nature Language Processing (NLP), SQL, Code Reviews, Compensation Stretegy, Research and Development

Technologies and Tools: Spark, Hive, Hadoop, Matplotlib, Power BI, Seaborn, Tableau, MySQL Pandas, Numpy, TensorFlow, Scikit-learn

Soft Skills: Statistics, Analysis, Analytical thinking, Problem-solving, Work Collaboratively, Communication, Brainstorming Session

Experience

Intern

Bilaspur University May 2024 – July 2024

Project – Developed a Real-Time Machine Learning-Based Hybrid Model for Crop Recommendation and Yield Prediction System

Responsibilities –

- Developed and Implemented a Hybrid Model: Engineered a Machine Learning-based Hybrid Model combining a Crop Recommendation System and Yield Prediction System to enhance agricultural productivity and sustainability.
- Optimized Crop Recommendation: Leveraged extensive datasets on soil properties and weather conditions, achieving high accuracy across various ML algorithms, including Naïve Bayes (99.54%), Decision Tree (98.86%), and Random Forest (98.86%).
- Enhanced Yield Prediction: Applied advanced algorithms like Decision Tree, Random Forest, Lasso Regression, and SVM to predict crop yield with 98% accuracy, utilizing a dataset covering 101 countries and multiple key parameters.
- Improved Agricultural Outcomes: Provided actionable insights for optimizing crop production, developing import-export strategies, and boosting farmers' income, addressing global food demands through innovative technology.
- Addressed Computational Challenges: Tackled issues related to data heterogeneity and computational scalability, ensuring the model's applicability across various agricultural contexts.

Global Tech Institute Feb 2024 – April 2024

Project – Developed a real-time Natural Language Processing (NLP) based Voice Enabled Language Translator:

Responsibilities –

- Developed an advanced Voice-Based Language Translator, addressing critical gaps in cross-language communication, international business, tourism, and emergency response.
- Innovative Multilingual Communication Framework: Engineered a comprehensive three-phase framework that seamlessly converts voice inputs to text, translates text between languages, and synthesizes natural-sounding voice outputs.
- Cutting-Edge NLP & ML Integration: Utilized Python, Googletrans, SpeechRecognition, GTTS, and Google API for voice-to-text conversion and translation, leveraging Recurrent Neural Networks (RNNs) with Long Short-Term Memory (LSTM) for text-to-text translation.
- High-Precision Sequence-to-Sequence Modeling: Implemented Sequence-to-Sequence (Seq2Seq) modeling to drive accurate language translation, backed by a carefully curated dataset for precise encoding and decoding.
- Technological Innovation with Real-World Impact: Created a transformative tool that enhances global communication dynamics, setting new standards in accessibility, social inclusion, customer support, and smart device adaptability.
- Cohesive Fusion of NLP & ML: Demonstrated technical innovation by merging Natural Language Processing and Machine Learning to redefine the capabilities of voice-based language translation.

Education

Master of Computer Application (MCA) **Percent-80%**

Atal Bihari Vajpayee Vishwavidyalaya Bilaspur (CG) **Aug 2022 – July 2024**

Coursework: Python, Data Science and Algorithm, Data Mining, Soft Computing, Big Data Analysis, Artificial Intelligence, Machine Learning, Object Oriented Programming, Java, Databases and management System, SQL,Operating System, Computer Networks, Image Processing, Software Engineering, Computer Architecture

Project Work

- **Developed a real-time Mental Health Detection model using Machine Learning:** Developed a machine learning model to accurately predict mental health conditions in real-time .Employed a mixed-methods approach and statistical analysis to optimize model performance and reliability achieved 98 % accuracy.
- **BCDM- Breast Cancer Detection Model using Machine Learning (2024):** Developed a robust machine learning model for early detection of breast cancer, utilizing algorithms like Logistic Regression, Support Vector Machines (SVM), and Random Forest. The model achieved 99% accuracy in classifying malignant and benign tumors, contributing to improved diagnostic precision and timely intervention.
- **Alternative Routes in Road Networks (2023):** Designed and implemented a simulation to identify the quickest route in a road network using Dijkstra's shortest path algorithm, accounting for random traffic conditions. Developed collision avoidance mechanisms by dynamically adjusting vehicle speeds. Used OpenGL for real-time visualization.
- **Clustering SSH Attacks (2023):** Applied the KMeans clustering algorithm to analyze and classify different types of attacks during Secure Shell (SSH) sessions based on network packet files (pcap). The project involved determining the optimal value of K and grouping similar files according to cluster assignments, implemented in Java using the WEKA tool.

Awards & Certificates

- Mentor: Helping students to get better at problem solving, coding and system design.
- Prompt Engineering: Udemy
- Python | Data Science | Deep Neural Network | Introduction to java : Coursera
- NCC 'C Certificate': Developed leadership skills as the NCC Platoon Commander and earned the NCC Certificate.