VISHAL BANERJEE

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EDUCATION:

Kalinga Institute of Industrial Technology, Bhubaneswar, India 2021-2025
Bachelor of Technology in Computer Science and Engineering | CGPA: 7.98
Courses: Object Oriented Programming, Operating Systems, Data Structures and Algorithm, Database Management System, Computer Networks, Computational Intelligence, Artificial Intelligence, Cloud Computing, Software Engineering

Dr. A.N.K DAV Public School, Rourkela, India
CBSE (Class XII) | Percentage: 94% July, 2021
CBSE (Class X) | Percentage: 91.8% May, 2019

TECHNICAL SKILLS:

- Languages/Libraries: C, C++, Python, SQL, HTML, CSS, Numpy, Pandas, Matplotlib, Scikit-Learn, Keras, Tensorflow
- Skills: Machine Learning, Data Structures and Algorithms, Object-Oriented Programming, Database Management System
- Software and Tools: Databricks, AWS S3, Azure Devops, Jupyter Notebook, Google Collab, Visual Studio Code, Github

EXPERIENCE:

Data Engineer Intern, MathCo **Jan - June 2025**
Co-Pay Data Integration Pipeline

- Instrumented an automated **AWS S3–Databricks–Azure DevOps** pipeline to process and transform 5 vendor datasets from raw files into a structured consumption layer for analytics.
- Performed **data cleaning and standardization** on more than 20 fields, ensuring schema consistency across vendors.
- Conducted **Paid Reversal Tagging** for 100% transaction accuracy and precise 13 KPI calculations.
- Developed **Copay Bundle** and **Voucher Bundle** datasets, reducing Power BI dashboard refresh time by 25% and improving stakeholder reporting efficiency.

Data Science Intern, Celebal Technologies **June - August 2024**
Customer Churn Prediction | Link

- Established churn prediction using **Linear Regression**, **SVM**, **Random Forest**, and **KNN**, with **Linear Regression** achieving 81% accuracy.
- Analyzed churn patterns across demographics (gender, senior citizens, dependents, partners), finding senior citizens 20% more likely to churn, using **Matplotlib**.
- Improved prediction precision by 15% through model fine-tuning and performance metrics analysis.
- Strengthened feature engineering with **Python** and **Scikit-learn**, leading to better model accuracy.

PROJECTS:

1) Smart Chess AI | Link

- Developed **CNN based** chess AI system achieving 95.29% test accuracy across 12,173 training samples using **TensorFlow/Keras**.
- Engineered 8x8x13 chess board representation with 95.38% validation accuracy for piece prediction and move generation.
- Built interactive chess game interface integrating deep learning models with chess engine logic, achieving 99.2% model convergence.
- Implemented an **end-to-end ML workflow** from PGN parsing to deployment, boosting accuracy by 0.6%.

2) Emotion Aware Difficulty Tuner | Link

- Built AI emotion-detection game in **Python & TensorFlow** achieving 85% accuracy across 7 emotions on 28000 facial images.
- Engineered real-time 30 FPS computer vision pipeline with threaded architecture for seamless gameplay integration.
- Developed **CNN with 2 convolutional layers**, reaching 92% training and 88% validation accuracy on FER2013 dataset.
- Designed Pygame interface with <100ms latency ensuring smooth and fully responsive user experience.

3) Intelligent Disease Detection of Cashew Crops | Link

- Spearheaded the development of two machine learning models, **SVM** and **Random Forest** and a **Convolutional Neural Network (CNN)** model utilizing leaf images to detect Cashew plant illnesses.
- Instrumented a cutting-edge machine learning model utilizing **TensorFlow and Python** to accurately detect and diagnose plant diseases and resulting in a 40% increase in early disease identification and treatment.
- Achieved a remarkable 95% classification accuracy, surpassing traditional methods, demonstrating practical viability.
- The engineered model leads to a 32% increase in accurate diagnoses and results in a reduction in diagnosis time.

CERTIFICATIONS:

- IBM: Exploratory Data Analysis for Machine Learning | **Link**
- Salesforce: Salesforce Developer Virtual Internship | **Link**