RUPSA JANA

Hooghly,West Bengal

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EDUCATION

The Neotia University, Diamond Harbour   **2021 − 2025**
B.Tech - Computer Science and Engineering(Data Science) - **CGPA** *-* **9.18**   *Diamond Harbour, West Bengal*

West Bengal Council of Higher Secondary Education   **2021**
Kshudrarampur High School- **Percentage** *-* **86.4**

TECHNICAL SKILLS

Languages: Python,SQL,C,Java
Technologies/Frameworks: Pandas, NumPy, Scikit-learn, TensorFlow, Keras, Matplotlib,
Seaborn,Langchain,Image processing
Developer Tools: VS Code, Spyder,Jupyter Notebook

EXPERIENCE

Intern at DCG Data Core System ↗   **Jan 2025 - June 2025**
Role - Machine Learning Intern   *Kolkata, West Bengal*

- Developed a pipeline to generate synthetic leaf damage using image processing techniques for data augmentation.
- Implemented and evaluated multiple transfer learning models (e.g., MobileNet, ResNet, EfficientNet) for multi-class classification.
- Extracted and analyzed handcrafted features (GLCM, HOG, LBP, Color Moments, Hu Moments) for comparative analysis with ML models.
- Conducted detailed performance evaluations using accuracy, F1-score, and class-wise probability analysis across 127 feature-model combinations.

Intern at AILABS ↗   **June 2023 - August 2023**
Role - Machine Learning Intern   *Kolkata, West Bengal*

- Gained hands-on experience in machine learning and data preprocessing techniques, improving data quality and model accuracy
- Worked on a project titled **Loan Approval Prediction**, involving exploratory data analysis, feature engineering, and implementing machine learning algorithms, which enhanced the prediction accuracy of loan approvals

Intern at WEBEL ↗   **June 2024 - August 2024**
Role - Machine Learning Intern   *Kolkata, West Bengal*

- Applied Deep Learning techniques, including **RNNs, LSTMs, GRUs, and Transformers**, to enhance natural language processing and sequence modeling capabilities, improving model accuracy and efficiency
- Executed the **'How Educated India Is'** project Analyzed India's literacy rates across states and demographics using data visualization and EDA to uncover trends and disparities, providing insights for policymakers and educators.

PROJECTS

Hybrid Recommendation System ↗ | SVD,KNN,TF-IDF,Flask,Python   **2024**

- Developed a hybrid recommendation engine that combined collaborative filtering (SVD), content-based filtering (TF-IDF + metadata), and demographic filtering (KNN) to provide personalized product suggestions.

- Addressed cold-start and sparsity challenges by dynamically adjusting recommendation weights based on user context (new, returning, search-based, or fully profiled users).
- Built and deployed a Flask-based web application with an interactive UI for login, product search, and real-time personalized recommendations.

What Makes a Country Happy ↗ | K means Clustering,python,numpy,pandas   **2024**

- Developed an interactive Streamlit app to analyze WhatsApp chat data, including message frequency, word count, and sentiment analysis etc.

- Performed data preprocessing with Pandas, handling missing values, formatting issues, and extracting key insights from chat logs.

Research Paper Recommendation System ↗ | Sentence Transformers, Cosine Similarity, Python **2024**

- Developed a recommendation system that uses Sentence Transformers to generate embeddings for research papers based on their content.
- Applied cosine similarity to match user preferences with similar research papers, offering personalized recommendations.

CERTIFICATIONS

- Application of Advance R in Business Analytics - The Neotia University
- Frontend Web Development (HTML, CSS, JavaScript) - The Neotia University

ACHIEVEMENTS

- Participated in the Smart India hackathon.