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, PyCharm,Jupyter Notebook

# EXPERIENCE

**Intern at DCG Data Core System [](https://drive.google.com/file/d/1woIheGOTIKbXlORahAwRrGSiFYZ0-_Nk/view?usp=drive_link)** **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 [](https://drive.google.com/file/d/1YM2zfVUL8D9mNtPXlrFl-pg2dmD-p7ae/view?usp=drive_link)** **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 [](https://drive.google.com/file/d/1JmNA1Givfa7pIycaRbKsy7cd-PqV12Ls/view?usp=drive_link)** **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
* Laboratory Workshop on the role of R in Data Science - The Neotia University

# ACHIEVEMENTS

* + Participated in the Smart India hackathon.