Tonmoy Day Sarkar

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Google Scholar • LinkedIn • GitHub

Research Interests

- Machine Learning, Recommendation System, Deep Learning, Predictive Analytics, Collaborative Filtering.

Education

Jain (Deemed-To-Be University) Bangalore, India
B.Tech. in Computer Engineering – Software Engineering *August 2020 - July 2024*
CGPA: 8.727/10.00

Research Experience

Jain (Deemed-To-Be University) September 2023 – July 2024
Student Research Assistant under Mr. Karthikeyan S. (Assistant Professor)

- Contributed to the research ideation by actively designing iterative approaches to experiment on the researched classification method.
- Employed state-of-the-art Machine learning algorithms to perform the classification task.
- Implemented iterative approaches, ran the experiments, analyzed the results, and wrote the papers.
- Actively participated in presenting for two research conferences where our papers got published.

Publications

- M. S. Rahman, **T. D. Sarkar**, U. T. Mitasha, M. S. Mia and S. Karthikeyan, "**E-commerce-based Smart Recommendation System using element-by-element collaborative filtering following with the Machine Learning Technology**," 2024 International Conference on Communication, Computing and Internet of Things (IC3IoT), Chennai, India, 2024, pp. 1-6, doi:10.1109/IC3IoT60841.2024.10550386.
- **T. D. Sarkar**, M. S. Rahman and K. S, "**Analysis of Customer Churn for Telecom Company with SMOTE-ENN and Hyperparameter Tuning Randomized-SearchCV Technique in Advanced Machine Learning Technology**," 2024 International Conference on Advancements in Power, Communication and Intelligent Systems (APCI), KANNUR, India, 2024, pp. 1-6, doi: 10.1109/APCI61480.2024.10617375.
- **T. D. Sarkar**, M. S. Rahman and M. Y. Emon, "**Predicting Restaurant Ratings: A Comparative Study of Linear Regression and Decision Tree Regression Models in Machine Learning Technology**," 2024 4th International Conference on Advancement in Electronics & Communication Engineering (AECE), GHAZIABAD, India, 2024, pp. 481-486, doi: 10.1109/AECE62803.2024.10911460.
- M. S. Rahman, **T. D. Sarkar** and M. Y. Emon, "**Comprehensive Geospatial and Statistical Analysis of Restaurant Distribution Using K-means Clustering in Machine Learning Technology**," *2024 4th International Conference on Advancement in Electronics & Communication Engineering (AECE)*, GHAZIABAD, India, 2024, pp. 461-466, doi: 10.1109/AECE62803.2024.10911593.

Professional Experience

- **CodSoft, IT Service, West Bengal, India.**
  Machine Learning Virtual Internship *June-July, 2024*

- As a Machine Learning intern, I had the opportunity to work on various projects and tasks, analyze complex datasets, and derive meaningful insights. My role involved collecting, cleaning, and interpreting data, as well as assisting in the development of machine learning solutions.

Academic Projects

- **E-commerce Recommendation System** *(GitHub)*: An element-by-element collaborative filtering approach leveraging advanced machine learning techniques for personalized recommendations.
- **Predict Restaurant Ratings** *(GitHub)*: This project uses machine learning to predict restaurant ratings, comparing linear and decision tree regression to identify key factors influencing customer satisfaction and dining choices.
- **Location based Analysis of the Restaurants with K-means Clustering** *(GitHub)*: Perform a geographical analysis of the restaurants.

- **Credit Card Fraud Detection** *(GitHub)*: Accuracy analysis of Credit Card Fraud Detection by Gaussian Naive Bayes, Decision Tree (ID3), Support Vector Machine, Logistic Regression, Random Forest Classifier, and XGBoost Classifier Algorithms.
- **Medicine Recommendation System** *(GitHub)*: A ML focused system to extract features from given patients description and suggesting relevant medicines from the database according to symptoms.
- **Smart Voting System**: This project aims at providing a confusion free and easy voting system.

Skills

- **Languages**: Python, C
- **DL/ML Libraries**: TensorFlow, Keras, Scikit-learn, OpenCV
- **Data Visualization**: Matplotlib, Seaborn
- **Technology**: Git
- **Web Programming**: Python (Flask), Nodejs
- **DBMS**: Oracle, MySQL
- **Operating System**: Linux (Ubuntu), Windows

Certifications

- Data Analysis Using Python - IBM through Cognitive Class
- Accenture North America - Data Analytics and Visualization – Forage
- Asia AI Odyssey Challenge – Microsoft
- Robotics Course - Infosys Springboard
- Software Engineer - HackerRank
- Software Engineer Intern - HackerRank
- Moving Data into Hadoop - Cognitive Class
- Problem Solving (Basic, Intermediate), Python (Basic) - HackerRank

Honors & Awards

- **The Chancellor's Scholarship** August, 2020 - July, 2024
  - Fully funded scholarship jointly contributing to complete academic expenses, awarded by Jain (Deemed-To-Be University) for outstanding academic performance.
- **Study in India (G2) Scholarship** August, 2021 – July, 2024
  - This scholarship jointly contributes to complete academic expenses, awarded by the Government of India through a globally competitive examination for international students demonstrating academic excellence.

Volunteer Experience

- **Event Lead Secretary at Creative Club** Jain (Deemed-To-Be University), India
  Conducted various activities on CSE Department students. *Jan 2022 - Jan 2023*
- **Assistant General Secretary at CSE Association of Jain** Jain (Deemed-To-Be University), India
  Organized annual events within department along with the guidance of seniors and teachers. *June 2021 - dec 2021*
- **General Volunteer at Volunteer for Bangladesh** Present