

Data Analyst/ Data Scientist

SUTIRTHA MUKHERJEE

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Education

PHD IN THEORETICAL PHYSICS– Jadavpur University and IACS, Kolkata, India 2016

M.SC. IN PHYSICS– The University of Burdwan, West Bengal, India 2009

Skills

Python

Pandas, NumPy, matplotlib, Seaborn, BeautifulSoup

SQL

MySQL, SQL Server, PostgreSQL, SQLite

Power Bi

DAX, Power Query, Visualization

Machine Learning and Deep Learning

scikit-learn, Keras

Excel

Pivot Table, Pivot Chart

C and FORTRAN programming

Monte Carlo, MPI-OMP

Projects

CREDIT CARD FRAUD DETECTION WITH MACHINE LEARNING –ML Internship Project –CodSoft, Kolkata October 2023

- Developed Python-based **machine learning** (ML) models to detect credit card fraud in a dataset of 1.3 million transactions.
- Conducted data cleaning, exploratory data analysis (EDA), and feature engineering using **Pandas**, **Matplotlib**, and **Seaborn**.
- Implemented ML algorithms, including Logistic Regression, Random Forests, and XGBoost, to create predictive models.

CUSTOMER CHURN PREDICTION – ML Internship Project – CodSoft, Kolkata November 2023

- Developed machine learning models to predict customer churn in commercial banks.
- Conducted data cleaning, transformation, and EDA to extract insights and prepare data for predictive modeling.
- Compared various ML algorithms, including SVM, Random Forest, boosting to construct a robust churn prediction model.

SPAM SMS DETECTION – ML Internship Project – CodSoft, Kolkata November 2023

- Implemented Python and **Natural Language Processing** (NLP) to identify spam messages in a dataset of 5500 SMS messages.
- Performed EDA and feature engineering using text processing techniques, including word-cloud and TF-IDF vectorization.
- Utilized ML algorithms, specifically Logistic Regression and Support Vector Classifier, achieving a 96% accuracy and f1-score.

HR ANALYTICS DASHBOARD – Personal Project – Kolkata December 2023

- Developed a **Power BI** dashboard to monitor, analyze, and report customer attrition within a company.
- Transformed and processed the dataset using **Excel** and DAX, ensuring it was optimized for in-depth analysis.
- Extracted valuable insights by crafting meaningful KPIs and creating impactful visualizations.

Work Experience

POST-DOCTORAL RESEARCHER – Korea Institute for Advanced Study – Seoul, South Korea August 2016-August 2022

- Developed computational codes to investigate the physics of intriguing materials and published multiple research articles.

MACHINE LEARNING INTERNSHIP – CodSoft – Kolkata October 2023-November 2023

- Developed predictive models across four distinct machine learning projects.

Data-Related Certifications

IBM Data Science Professional Certificate Coursera, July 2023

Microsoft Power BI Desktop for Business Intelligence Udemy, December 2023

Advanced SQL: MySQL for Ecommerce & Web Analytics Udemy, December 2023