Nilanjan Debnath

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SUMMARY

Data scientist and business analyst skilled in data modeling, system analysis, and process optimization. Proficient in Python, SQL, and Tableau, with experience in workflow analysis, data integration, and performance tracking. Strong background in requirement gathering and cross-team collaboration to drive insights. Adept at automating data pipelines and transforming complex datasets into actionable intelligence to enhance operational efficiency and decision-making.

PROFESSIONAL EXPERIENCE

The University of Texas at Dallas, Dallas, TX — Aug 2022 – Dec 2024

Eugene McDermott Fellow Graduate Research Assistant

- Estimated the upper and lower bounds for school admissions in centralized systems using two-sided matching strategies potentially decreasing wasteful applications by 7.9%.
- Analyzed and identified key variables affecting match quality in foster care adoptions, resulting in a potential 12% reduction in the rate of children who reenter foster care.
- Developed a model of pooled farmer data to evaluate the impact of cooperatives on loan approval rates and interest terms for small farmers, including those with limited credit history.

Mercedes Benz Research and Development, Bangalore, India — Feb 2022– Jul 2022

Computer-Aided Engineering Analyst

- Enhanced ergonomic satisfaction of Mercedes carlines by 12% through in-depth analysis of Mercedes Benz and benchmarking competitor cars using advanced computer-aided design (CAD) tools.
- Automated ergonomic analysis processes with computer vision, reducing analysis time by 82%.
- Established the process for properly simulating accident scenarios using Generative Adversarial Networks (GANs) to generate 25% additional accident data which was useful for accident prevention scenarios.
- Led reinforcement learning workshops to accelerate project development and enhance team proficiency.

DeLab Research, Trivandrum, India — Jan 2021 – Apr 2021

Machine Learning Intern

- Optimized next-day renewable energy forecasting by deploying a host of regression models on Spark based ETC pipelines in Azure Databricks to achieve 90% prediction accuracy.
- Surpassed industry benchmarks by enhancing operational efficiency and cutting forecasting errors by 8%.

Coriolis Technologies, Pune, India — May 2020 – July 2020

Machine Learning Intern

- Fortified information security by utilizing Named Entity Recognition techniques with NLP frameworks (SpaCy & Polyglot) to conceal named entities to achieve a 94% true positive classification rate.
- Applied deep neural networks on OCR-extracted text for high-precision document classification and contributed significantly to the GitHub repository of Microsoft Presidio.

Indian Statistical Institute

Research Intern — May 2021 – Dec 2021

- Engineered clustering algorithms for streaming data using decision-theoretic rough sets.

Indian Statistical Institute

Research Intern — Dec 2019

- Assisted in data pre-processing and data classification based on Bayesian decision theory.

EDUCATION

The University of Texas at Dallas — May 2025

Master of Science, Supply Chain Management (Eugene McDermott Fellow, Transferred from PhD in OR)

Chennai Mathematical Institute, Chennai — May 2021

Master of Science, Data Science

St. Xavier's College, Kolkata — May 2019

Bachelor of Science, Mathematics

ADDITIONAL INFORMATION

Tools: SQL, Python, R, Power BI, MATLAB, Tableau, Microsoft Excel, AWS, Databricks

Skills: *Statistical methods, Linear Regression, Machine Learning (Supervised and Unsupervised),Natural Language Processing, Deep Learning, Reinforcement Learning, Computer Vision, Generalized Linear Models, Regularization, Time Series Analysis, Forecasting, Monte Carlo Simulation, Linear Programming, Root cause analysis, A/B testing*