Aniruddha Ganguly

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WORK EXPERIENCE

DATA SCIENCE RESEARCH ASSISTANT, New Jersey Institute of Technology, NJ Jan 2021 - Present

Ship Maintenance Optimization

- Implemented solution in collaboration with the Office of Naval Research on optimizing the ship maintenance workflow that **increases the overall ship availability by 18% across all shipyards and ship types**.
- The exploratory data analysis shows delay greater than 7 days has a direct impact on ships availability.
- PCA, multiple timeline projections, LSTM, Neural Networks, NLP, Anomaly Detection, have been utilized to classify the ships that are more probable to be delayed more than 7 days.
- Ensemble model determines that successful delay prediction is possible with **87% confidence** at **early 20%** of the completion timeline.

Intangible Assets Quantification

- Prepared models using TFIDF, n-grams, Neural Networks, Google's BERT, Context Analysis that quantify the intangible asset from public Financial Reports with **98% confidence**.
- The solution uses BeutifulSoup, regex to scrape from the Financial Reports (10-K,8-K, etc.) filed by companies on SEC website.
- Keywords clustering process generates quantifiable scores based on context related to intangible investments.
- Topic Modeling and Trend Analysis shows important changes in Intangible Investments over the years having almost **23% impact on the stock price changes.**

DATA SCIENTIST, Myntra (Walmart Group), Bangalore, IN Feb 2017 -Dec 2020

Customer Annual Churn

- Created Models to **Predict Customer Annual Churn** for e-commerce Fashion industry resulted in **8% increase in Customer Acquisition** and **15% increase in Customer Retention.**
- The model uses LSTM, Neural Networks based on Customers' interactions with the platform (Clickstream Data) and classifies the Customers based on their probabilities of annual churn with **86% confidence.**

Size-Fit Recommendation Engine and Virtual Fit Assistant

- Designed **Recommendation Engine and Virtual Fit Assistant** for Online Fashion Industry using Collaborative filtering, Matrix Factorization, Neural Networks, and multiclass classification models.
- The recommendation engine generates recommendations for Customers as well as Products resulting in a **5% decrease in Returns caused by Size and Fit issues.**
- Built Dashboards for AB Testing and to keep track of the impact.

Monkey Typed Address Detection

- Developed Classification Models using Natural Language Processing (NLP), TFIDF, N-grams, BERT to segregate Monkey Typed Addresses (Randomly Typed by Users) that increase the monthly success rates in terms of deliverability by **6%**.

Automatic shipment allocations

- Coached and managed a team of Interns to solve NP-Hard Optimization Problem to Automatic shipment allocations using Linear Programming.
- The project developed by the team decreases the delivery failure rate caused by misplacement and performance by **11%**.

SENIOR DATA ANALYST, Capital One Mar 2015 - Jan 2017

Anti-Money Laundering

- Designed data models and procedures and generated several automated reports using Python and SQL to detect anomalies and generate SARs (Suspicious Activity Reports) to maintain 100% compliance in terms of Anti-Money Laundering and Terrorist Funding risks.
- The solution is reusable and acts as a Framework to generate compliance reports helped the Bank to decrease manual costs by **80%** in terms of time and resources going forward.

DATA ANALYST, ITC Infotech Pvt. Ltd. Mar 2013 - Feb 2015

Created ETL Models to process and analyze data in Insurance Domain

- Tools Used: Informatica, DataStage, QlikView

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EDUCATION

- **Master's in Computer Science, New Jersey Institute of Technology, NJ** **GPA:** 3.5/4 May 2022
  Courses: Machine Learning, Linear Algebra, Deep Learning, Data Mining, Data Analytics with R
- **Bachelor's in information technology, NIT Durgapur, India** **GPA:** 7.1/10 May 2013
  Courses**:** Data Structures & Algorithm, DBMS, Operating Systems, Object-Oriented Programming

SKILLS

- **Languages:** Python, SQL, R
- **Databases:** MySQL, MS SQL Server, Oracle SQL, Redshift
- **Libraries:** Keras, TensorFlow, PyTorch, Numpy, Pandas, Matplotlib, sklearn, Seaborn, BeautifulSoup, NLTK
- **Cloud Services:** AWS, Azure