

SHEMONTODAS

St. John's, NL, Canada

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EXPERIENCE

Data Scientist

Instrumar Limited

May 2024 - Present St. Johns, NL

- Analyzing data to develop, evaluate, and deploy machine learning models.
- Developing data analysis tools for customers to address business needs.

Data Science Intern

Instrumar Limited

May 2022 - April 2024 St. Johns, NL

- Interpreted complex manufacturing time series data, leading to improved decision-making.
- Enhanced anomaly detection and classification by optimizing data preprocessing, analysis, and feature engineering for machine learning models.

Machine Learning Engineer

Arthor Limited

Feb 2021 - Jul 2021 Dhaka, Bangladesh

- Worked on developing computer vision based Autonomous Driver Assistance System
- Integrated machine learning and computer vision in embedded systems

PROJECTS

Preprocessing & Data Labeling Pipeline

(Python, Matplotlib, Tkinter)

- Streamlined sensor data preprocessing with sliding window statistical features, increasing event retrieval accuracy and annotation rate by 50%.
- Optimized data analysis by integrating PCA for impactful visualization and dimensionality reduction.
- Created an interactive interface with Matplotlib and Tkinter, enhancing event annotation and boosting analysis efficiency.

Active Learning Framework for Texture Classification

(Python, Sklearn, Pandas, Scipy)

- Preprocessed and analyzed tactile sensing data, driving actionable insights for modelling.
- Developed hypertuning function to select optimized window size.
- Validated results of machine learning models for texture classification with Wilcoxon hypothesis testing.

Instrumar's Machine Learning Pipeline for Manufacturing Fault Classification

(Python, Pycaret, Sklearn, Pandas, Graphviz)

- Reduced quality downgrades by automating fault classification, leading to more efficient and accurate fault detection for Instrumar.
- Developed a frequency based class-balancing algorithm that resolved data imbalance, boosting classification accuracy for Instrumar.
- Engineered and optimized ML models (XGBoost, Random Forest), enhancing performance and predictive accuracy.
- Reduced data annotation cost and time for Instrumar by 40%, making fault classification efficient.

Financial Fraud Analysis and Detection

(Python, Scikit-learn, Pandas, Imbalanced-learn)

- Conducted exploratory data analysis on financial datasets, improving data quality through cleaning and outlier detection.
- Resolved data imbalance using SMOTE, significantly improving fraud detection accuracy.

EDUCATION

MSc. in Computer Science

Memorial University of Newfoundland

Jan 2022 - May 2024 St. John's, NL

BSc. in Computer Science and Engineering

BRAC University

Jan 2017 - Jan 2021 Dhaka, Bangladesh

SKILLS

- Language and Frameworks:** Python, Java, HTML, SQL, Pycaret, Tensorflow, Keras, Pandas, Sklearn, Numpy, Latex.
- Software and Tools:** MySQL, Anaconda Navigator, Git, Tableau, Label Studio, VS Code, Arduino, Raspberry pi, Nvidia Jetson Nano.
- Soft skills:** Academic writing, Presentation, Creative thinker, Team player.

AWARDS

- Awarded "Fellow of the School of Graduate Studies" title by School of Graduate Studies, Memorial University, 2024.
- Graduated with the Highest Distinction from Memorial University.
- Graduate Research Award 2023 for strong research contribution, Department of Computer Science, Memorial University.
- Awarded for Best Graduate Talk at the SEA 2023 conference by the Faculty of Science, Memorial University.
- Recipient of Vice Chancellor Certificate at BRAC University during residential semester.
- Secured 7th position at Singapore Autonomous Underwater Vehicle Challenge, 2018.

EXTRACURRICULAR

- President (Highest executive position), Robotics Club of BRAC University (2020-2021).
- Debating (English Parliamentary Debate).