

# Emon Roy

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## Professional Summary

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Recent Computer Science graduate student with over 3 years of industry experience and 2 years of academic research, with a strong focus on data analytics, reporting, and business intelligence. Experienced in Python, SQL, and advanced ML frameworks to build dashboards, repeatable workflows, and reporting solutions that transform complex data into actionable insights. Skilled in data preparation, analysis, visualization, and process documentation, with the ability to collaborate effectively with stakeholders and communicate findings clearly. Seeking opportunities to apply data analysis, reporting, and problem-solving skills to support business decision-making and operational improvement.

## Experience

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### IFIC Bank PLC

Dec 2020 – Aug 2023

*Application & Database Administrator*

*Dhaka, Bangladesh*

- Successfully delivered an E-Signature solution for the bank's HR Division that allowed staff members to easily collect and upload client signatures resulting in a significant reduction in the bank's admin approval turnaround time by 60%.
- Spearheaded the development of the bank's branch affairs repository system across its branches that allowed its members to quickly access and report on all end of day bank affairs including summary transactions.
- Administered and supported Oracle databases for banking applications using SQL/PL-SQL, resolving production incidents and completing data validation checks that reduced recurring data issues by 30%.
- Assisted with performance tuning and query optimization using TOAD, reducing report query runtime by 40% and improving operational reporting reliability by 25%.
- Automated HRIS reporting by delivering 10+ Power BI dashboards, resulting in a 35% increase in operational efficiency for analytics stakeholders.
- Led the research and development on different banking applications and provide on-time technical support and feedback to the branch & sub-branch employees at request.

### Ontario Tech University

Sep 2023 – Dec 2025

*Graduate Research Assistant – Imaging Lab*

*Oshawa, Ontario*

- Researched transformation-invariance properties of Grad-CAM in Convolutional Neural Networks.
- Conducted a systematic investigation of Grad-CAM robustness under image transformations (rotation, zoom, X/Y shift) across deep CNN architectures.
- Applied the experimental pipeline to medical imaging data to evaluate malignant-region localization consistency in Grad-CAM heatmaps.
- Analyzed performance discrepancies and proposed heatmap-averaging techniques to improve reliability across transformed inputs.
- Presented results via statistical visualizations and co-authored a paper accepted at CVIS 2024 (poster).

### Ontario Tech University

Sep 2023 – Present

*Graduate Teaching Assistant*

*Oshawa, Ontario*

- Delivered engaging lectures on Scientific Data Analysis, Software Systems Development & Integration, Introduction to Programming, Algorithm Analysis & Design, and Software Quality Assurance to classes of 50+ students, boosting midterm exam averages from 75% to 86%.
- Designed and led interactive tutorials and laboratory sessions, increasing first-attempt pass rates on algorithmic problem sets from 62% to 84% through quick-quiz checkpoints and hands-on examples.
- Proctored exams and provided timely, accurate grading and constructive feedback, driving course-evaluation ratings up from 4.0 to 4.6 out of 5, with 92% of students citing "clarity of instruction" as a strength.

## Technical Skills

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**Programming Language** : Python, C/C++, Java, SQL  
**Data Integration & ETL** : Microsoft SSIS, Apache Airflow, Azure Data Factory  
**BI & Reporting** : Power BI, Looker, Excel, A/B Testing, Forecasting  
**Databases & Warehousing** : MySQL, Oracle, Snowflake  
**Version Control & DevOps** : Git, Jenkins, CI/CD, Docker, Kubernetes  
**Additional Software** : Microsoft Office Suite, Adobe Creative Suite

## Projects

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### **Marketing Campaign Performance and Customer Insights Analytics** | *SQL, Python, Excel, Power BI, ETL, A/B Testing, CI/CD*

- Built a marketing analytics project to analyze campaign performance, customer behavior, and conversion trends.
- Designed a data model and ETL pipeline to transform raw marketing data into reporting-ready tables.
- Performed A/B testing to compare campaign variants and identify higher-performing strategies.
- Used GitHub-based CI/CD workflows to support repeatable analysis and validation.

### **Financial Risk Monitoring and Forecasting Analytics** | *SQL, Python, Excel, Looker, ETL, Forecasting, CI/CD*

- Built a financial risk analytics project to monitor delinquency, payment trends, and customer risk segments.
- Designed a data model and ETL pipeline to prepare financial data for reporting and dashboard analysis.
- Applied forecasting techniques to analyze and project financial risk trends.
- Used GitHub-based CI/CD workflows to improve reproducibility and project maintenance.

## Education

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### **Ontario Tech University**

Graduated: December 2025

*M.Sc in Computer Science (Specialization in Artificial Intelligence) (GPA: 3.92 / 4.30)*

*Oshawa, Ontario*

- **Relevant Coursework:** Machine Learning, Adv. Software Design, IT Security, Research Methods & Collaborative Design

### **North South University**

Graduated: August 2020

*B.Sc in Computer Science and Engineering (GPA: 3.67 / 4.00)*

*Dhaka, Bangladesh*

- **Relevant Coursework:** Data Structure & Algorithm, Software Engineering, Database Management Systems, Probability & Statistics, Linear Algebra, Calculus (I-IV), Design & Analysis of Algorithms

## Publications

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1. **A Contrastive Learning Approach to Bug Severity Classification with Large Language Model Embeddings**  
*Conference on Computers, Software, and Applications Conference (COMPSAC 2025)*
2. **I-Grad-CAM: Transformation Invariant Grad-CAM**  
*Conference on Vision and Intelligent Systems (CVIS 2024)*

## Certifications

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- Google Data Analytics Certificate
- Microsoft Excel Professional Certificate
- Power BI Data Analyst Associate
- Analyzing and Visualizing Data in Looker