Zamiul Alam

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SUMMARY

Physics graduate with 4+ years of experience applying machine learning and statistical modeling to real-world problems. Strong track record of working with large, messy datasets and building interpretable models that deliver actionable insights. Fast learner with proven ability to communicate technical results clearly to diverse audiences. Eager to solve business challenges as a data scientist or quantitative analyst in a collaborative environment.

EDUCATION

Washington University in St Louis, *Master's in Physics*   **Aug 2025**
Northern Illinois University, *Master's in Physics*   **Aug 2023**
University of Dhaka, *Bachelor's in Physics*   **Jan 2021**

TECHNICAL SKILLS

- <u>Languages & Platforms:</u> Python, SQL, R, Tableau, Mathematica, MATLAB, Jupyter, Linux, Git, MS Word, MS Excel
- <u>Python Libraries:</u> Pandas, NumPy, scikit-learn, Matplotlib, Seaborn, Folium, XGBoost, CATBoost, PyTorch, TensorFlow
- <u>Machine Learning:</u> Time Series Analysis, Regression, Inference, Classification, Clustering, Boosted Trees, Neural Networks, Natural Language Processing, Large Language Models, Deep Learning, Artificial Intelligence (AI)
- <u>Soft Skills:</u> Communication, Collaboration, Adaptability, Leadership, Punctuality, Critical thinking, Creativity

CERTIFICATIONS

- [The Erdős Institute Data Science Boot Camp:](#)   **Jul 2025**
  Completed an intensive Data Science Boot Camp, developing end-to-end data science workflows including data cleaning, exploratory data analysis, predictive modeling, and results presentation through a team-based project.
- [IBM Data Science Professional Certificate:](#)   **May 2025**
  Completed a 12 Course Professional Certificate in Data Science and Machine Learning with hands-on experience in Python, SQL, data analysis, visualization, and model development through cloud-based projects and a capstone.

WORK EXPERIENCE

Washington University in St. Louis: St. Louis, MO   **Aug 2023 – Aug 2025**
Arts & Sciences Graduate Fellow
- Conducted research on Dark Matter and Neutron Stars, performing large-scale simulations and statistical inference under uncertainty.
- Presented research results to faculty and peers, honing skills in translating technical work into clear, actionable insights.

Northern Illinois University: Dekalb, IL   **Aug 2023 – Aug 2025**
Research Assistant & Teaching Assistant
- Used chi-squared tests and Regression models to fit particle physics data, reduced computation time by 90%.
- Taught physics lab sections, mentoring students in experimental design and scientific computing.

Durbin Labs Ltd: Dhaka, BD   **Oct 2018 – Mar 2019**
Educational Consultant
- Designed and taught online courses. Contributed towards making education accessible to students from underprivileged backgrounds.

SELECTED PROJECTS

Finding Fraudsters - *The Erdős Institute* [[LINK](#)], [[SLIDES](#)]   **Jul 2025**
- Built an ensemble fraud detection model (XGBoost, LightGBM, CATBoost) on a fraud dataset with 590,000+ transactions.
- Designed advanced sampling strategies to handle severe class imbalance (3.5% fraud rate), improving detection of rare events.
- Tuned hyperparameters to achieve a 93% ROC AUC, reducing false negatives.

Chicago Crimes Data Analysis – *Self-guided Project* [[LINK](#)]   **Mar 2025**
- Analyzed and cleaned crime data from the Chicago Data Portal which contained 8 million rows.
- Developed SARIMA time series models to forecast crime rates for 2024, generating actionable predictions for public safety authorities.
- Created clear visual dashboards with Seaborn and Folium to communicate findings to non-technical stakeholders.