

# Zamiul Alam

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## SUMMARY

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Physics graduate with 4+ years of experience applying machine learning, data analysis and quantitative methods to solve complex problems. Fast learner with exceptional attention to detail and a commitment to delivering high-quality results. Seeking opportunities in data science and quantitative analysis to tackle real-world challenges with data-driven solutions.

## TECHNICAL SKILLS

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

## CERTIFICATIONS

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- [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.

## SELECTED PROJECTS

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- **Finding Fraudsters - The Erdős Institute** [[LINK](#)], [[VIDEO](#)], [[SLIDES](#)] **Jul, 2025**
  - Developed a fraud detection model using boosted decision trees (BDT) on the IEEE-CIS Fraud Detection dataset.
  - Dealt with a highly imbalanced dataset of 590,540 transactions, of which only 3.5% were fraudulent.
  - Achieved 93% ROC AUC score using ensemble model of XGBoost, LightGBM and CATBoost.
- **Chicago Crimes Data Analysis – Self-guided Project** [[LINK](#)] **Mar, 2025**
  - Analyzed crime data from the Chicago Data Portal which contained 8 million rows and 22 columns.
  - Used Seaborn and Folium for data visualization, SARIMA for Time Series Analysis.
  - Built a forecast model for public authorities to help prevent crimes.

## WORK EXPERIENCE

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- **Washington University in St. Louis: St. Louis, MO** **2023 - 2025**  
Arts & Sciences Graduate Fellow
  - Conducted research on Dark Matter and Neutron stars, used concepts of Quantum Mechanics and statistical probabilities.
  - Served as Teaching Assistant for Undergraduate and Graduate level courses like Electrodynamics.
- **Northern Illinois University: Dekalb, IL** **2021 - 2023**  
Research Assistant & Teaching Assistant
  - Conducted research in Particle Physics, used Chi-squared test and machine learning tools like PyTorch.
  - Taught lab sections, guiding students in performing physics experiments and using Python for data analysis and visualization.
- **Durbin Labs Ltd: Dhaka, BD** **2018 - 2019**  
Educational Consultant
  - Designed and taught online courses with a goal of making education accessible to students from underprivileged backgrounds.

## EDUCATION

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- **Washington University in St Louis, Master of Arts in Physics** **2025**
- **Northern Illinois University, Master of Science in Physics** **2023**
- **University of Dhaka, Bachelor of Science in Physics** **2021**