Terrance Luangrath

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EDUCATION

University of Virginia | M.S. Data Science | Charlottesville, VA *Expected Graduation August 2026*
- Relevant Coursework: Bayesian Machine Learning, Linear Models for Data Science, Deep Learning

James Madison University | B.S. Applied Mathematics | Minor Data Analytics | Harrisonburg, VA *May 2024*
- Relevant Coursework: Bayesian Machine Learning, Linear Models for Data Science, Deep Learning

RELEVANT EXPERIENCE

Graduate Student Researcher | **University of Virginia** | Charlottesville, VA   March 2025 - Current
- Conducted research in Security Operations Centers (SOCs) and large language models (LLMs) to analyze, and identify patterns in alert data, improving threat detection strategies.
- Collaborate with external teams to gather information, conduct interviews, and improve research processes across projects.
- Identify workflow steps in SOC operations and implement LLM-based solutions to optimize processes and improve efficiency.

Junior Data Analyst | **ACTFORE** | Reston, VA   June 2024 – May 2025
- Analyzed and processed sensitive data, ensuring compliance with privacy regulations (PII, PHI, FERPA, GDPR) while maintaining data accuracy and confidentiality.
- Collaborated with cross-functional teams to ensure consistent and accurate record-keeping of sensitive data, while optimizing incident response strategies through advanced data analytics.
- Utilized Excel for data analysis, data entry, and reporting, ensuring consistent and accurate records for large datasets (over 1TB of data processed daily).

Math & Stat Student Learning Assistant | **James Madison University** | Harrisonburg, VA   January 2024 – May 2024
- Tutor students in statistics, guiding them in data analysis, statistical modeling, and visualization using tools like IBM Statistical Package for the Social Sciences (SPSS).
- Worked with multiple professors and other tutors to assist students in enhancing their study techniques and improving their understanding of statistical and mathematical concepts.

PROJECTS EXPERIENCE

Fraud Detection App (Python)   August 2025 – September 2025
- Analyzed 6.3M+ financial transaction records from Fraud Detection dataset, performing comprehensive exploratory data analysis (EDA) to identify patterns, anomalies, and imbalances in fraudulent behavior.
- Applied logistic regression with class weighting to handle severe class imbalance (0.13% fraud rate), achieving 95% recall on fraud cases while maintaining an overall accuracy of ~95%.

Haiti Earthquake Disaster Relief Project (R)   May 2025 – August 2025
- Utilized R for advanced data processing and image analysis, extracting actionable insights from unstructured image data to enable deeper analysis.
- Implemented machine learning models (Penalized Logistic Regression, KNN, LDA, QDA, Randon Forest, and Support Vector Machine) to identify and map temporary shelters and displaced families across makeshift camps, ensuring accurate classification.

Monte Carlo Simulator Package (Python)   April 2025 – May 2025
- Developed a modular Python package using object-oriented programming principles with integrated Die, Game, and Analyzer classes to simulate and analyze stochastic processes.
- Utilized NumPy and Pandas for data generation, transformation, and visualization of simulation results.

SKILLS AND TECHNIQUES

Skills: Python (Pandas, NumPy, SciPy, Matplotlib), R (tidyverse, statistical analysis, data visualization, machine learning), SQL (data manipulation, data wrangling), Java, SAS, IBM SPSS Statistics

Techniques & Certification: Data Manipulation, Statistical Analysis, Data Modeling, Machine Learning, Hypothesis Testing, Data Visualization, Machine Learning, Azure Fundamental (2022)