ATTICUS REX

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EDUCATION

Georgia Institute of Technology   **May 2024 - Present**
PhD Student in Computational Science & Engineering   Atlanta, GA
- GPA*:* 4.0/4.0, MSA Fellowship Award Recipient, Home Unit: Aerospace Engineering

Virginia Tech   **May 2023**
B.S. in Mechanical Engineering, B.S. in Computational Modeling & Data Analytics   Blacksburg, VA
- Summa Cum Laude, Honors Laureate Diploma, President's List, 226 credit hours

EXPERIENCE

Georgia Institute of Technology   **Aug 2023 – Present**
Graduate Teaching Assistant   Atlanta, GA
- Supported faculty with curriculum development, grading, and instruction in CSE 6040 - Computing for Data Analytics, AE XXXX – Machine Learning for Aerospace Engineering.

Cox Communications, Inc   **May 2024 – Aug 2024**
Graduate Data Science Intern   Atlanta, GA
- Leveraged techniques in NLP, Time-Series Analysis, and data mining with AWS (Sagemaker, Athena, SQL) to uncover novel insights into how outbound SMS notifications drive digital interactions.

NAVSEA Naval Surface Warfare Center Dahlgren Division   **Aug 2022 – May 2023**
Optimal Shock Damping for Improved Controllability of Antenna Test Fixture   Blacksburg, VA
- Technical lead in specialized team to design and manufacture novel vibration equipment to simulate shock pulses.
- Achieved ~400% damping improvement and reduced cost by 80% compared to previous testing.

Virginia Tech Department of Agriculture & Applied Economics   **May 2022 – Aug 2022**
Software Development and Data Analytics Intern   Riobamba, EC
- Developed software to survey conservation agriculture, oversaw the maintenance and storage of data, and worked in R and Python to conduct statistics, data analytics, and data visualization.

Virginia Tech Student Athletic Academic Support Services   **Aug 2021 – May 2022**
Math Lecturer, Tutor   Blacksburg, VA
- Earned highest paid undergraduate position at Virginia Tech through calculus lectures.
- Improved student grades by 20-30% on average and attended training to improve teaching.

PROJECTS

Evaluating Linearized Echo State Networks, SINDy Framework, and Direct Differentiation Methods for Dynamical System Modeling   **Aug 2022 – May 2023**
Advisor: Serkan Gugercin, Ph.D.   Blacksburg, VA
- Successfully applied linearized Echo State Network models to improve chaotic dynamical system models.
- Demonstrated ~20% more accuracy than SINDy when applied to the Lorenz System.

Best Buy Project Week 2024 Competition   **Jan 2024**
First Place Winner   Atlanta, GA
- Leveraged techniques in data mining, dimensionality reduction, parallel computing, and visualization to develop a deep learning model that accurately categorized over 500,000 customer service transcripts.

Discovering Nonlinear Epidemiological Diff. Eq. Models from Data   **Aug 2023 – Dec 2023**
CSE 8803 – Epidemiology Term Project, Instructor: B. Aaditya Prakash   Atlanta, GA
- Accurately and reliably recovered governing differential equations from noisy, nonlinear epidemiological data.

SKILLS & CERTIFICATIONS

Engineering: Fundamentals of Engineering (FE Mechanical) Certified, CFD/FEA, Solidworks, Controls
Data Science: Python (PyTorch, Tensorflow, Numpy, Pandas, Scikit-Learn, Dask), R, Tableau, SQL, MATLAB, Julia, C/C++, Java, Git, Linux, Optimization, Model Reduction, Parallel Computing, Web-Scraping, AWS,
Languages: English (native), Spanish (fluent)