

ATTICUS REX

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EDUCATION

Georgia Institute of Technology Ph.D. Candidate – Computational Science & Engineering <i>National Science Foundation - Graduate Research Fellow</i>	May 2024 - Present Atlanta, GA
Virginia Tech B.S. in Mechanical Engineering, B.S. in Computational Modeling & Data Analytics <i>Summa Cum Laude, Honors Laurate Diploma</i>	May 2023 Blacksburg, VA

EXPERIENCE

Air Force Research Lab <i>Graduate Research Intern</i>	May 2025 – Aug 2025 Wright-Patterson AFB, Dayton, OH
<ul style="list-style-type: none">Applied self-developed machine learning algorithms to approximate of flame speed and turbulent transonic aircraft engine velocity. Gave machine learning and uncertainty quantification talks attended by hundreds of engineers.	
Georgia Institute of Technology <i>Graduate Teaching Assistant</i>	Aug 2023 – Present Atlanta, GA
<ul style="list-style-type: none">AE 4803 – Foundations of Scientific Machine Learning: contributed to curriculum development, delivered lectures, conducted oral assessments, held office hours, and created assessments. Supervisor: Elizabeth Qian, Ph.D.CSE 6040 – Graduate Computing for Analytics: proctoring, office hours & live-coding sessions.	
Cox Communications <i>Graduate Data Science Intern</i>	May 2024 – Aug 2024 Atlanta, GA
<ul style="list-style-type: none">Leveraged techniques in natural language processing, 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 <i>Optimal Shock Damping for Improved Controllability of Antenna Test Fixture</i>	Aug 2022 – May 2023 Blacksburg, VA
<ul style="list-style-type: none">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.	
Student Athletic Academic Support Service <i>Tutor and Math Teacher</i>	Aug 2019 – May 2022 Blacksburg, VA
<ul style="list-style-type: none">Academic tutor in STEM and liberal arts subjects; improved student grades by ~30% on average; 1000+ hours of experience tutoring/teaching.	

PROJECTS

Multi-Fidelity Surrogate Modeling <i>Advisor: Elizabeth Qian, Ph.D.</i>	Aug 2024 – Present Atlanta, GA
<ul style="list-style-type: none">Developed novel data-driven surrogate modeling techniques with Gaussian Processes to replace expensive simulations when data from cheaper simulations are available. Analysis of existing model reduction, uncertainty quantification, and information theoretic approaches to multi-fidelity modeling.	
Best Buy Project Week 2024 Competition <i>First Place Winner</i>	Jan 2024 Atlanta, GA
<ul style="list-style-type: none">Utilized data mining, dimensionality reduction, parallel computing, and visualization to develop a deep learning model that accurately categorized over 500,000 customer service transcripts.	
Echo State Networks and Noisy Differentiation for Dynamical Systems Modeling <i>Advisor: Serkan Güğercin, Ph.D.</i>	Aug 2022 – May 2023 Blacksburg, VA

SKILLS & CERTIFICATIONS

Programming: Python (PyTorch, Tensorflow, Numpy, Pandas, Scikit-Learn, Dask), R, SQL, MATLAB, Julia, C/C++, Java, Git, Linux, Parallel Computing (Slurm), AWS

Data Science: Machine learning, finite-element simulation, numerical linear algebra, algorithm development, time-series analysis, optimization, model reduction, natural language processing, Bayesian statistics

Engineering: Fundamentals of Engineering (FE Mechanical) Certified, CFD/FEA, Solidworks, Controls

Languages: English (native), Spanish (fluent)