

# ATTICUS REX

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## EDUCATION

<b>Georgia Institute of Technology</b> Master of Science in Computational Data Analytics	<b>Aug 2024</b> Atlanta, GA
<ul style="list-style-type: none"><li>Coursework: Machine Learning, Simulation, Statistics, Linear Algebra, Network Analysis, HPC</li></ul>	
<b>Virginia Tech</b> Dual Degree: B.S. in Mechanical Engineering, B.S. in Computational Modeling & Data Analytics	<b>May 2023</b> Blacksburg, VA
<ul style="list-style-type: none"><li>Awards: Summa Cum Laude (GPA: 3.83/4.0), Honors Laureate Diploma, President's List</li></ul>	

## EXPERIENCE

<b>Georgia Tech College of Computing</b> Graduate Teaching Assistant	<b>Aug 2023 – Present</b> Atlanta, GA
<ul style="list-style-type: none"><li>Supported faculty in CSE 6040 - Computing for Data Analytics with grading and office hours.</li></ul>	
<b>NAVSEA Naval Surface Warfare Center Dahlgren Division</b> Optimal Shock Damping for Improved Controllability of Antenna Test Fixture	<b>Aug 2022 – May 2023</b> Blacksburg, VA
<ul style="list-style-type: none"><li>Worked in specialized team to design and implement novel vibration equipment to simulate shock pulses.</li><li>Achieved ~400% damping improvement and reduced cost by 80% compared to previous testing.</li></ul>	
<b>Virginia Tech Department of Agriculture &amp; Applied Economics</b> Software Development and Data Analytics Intern	<b>May 2022 – Aug 2022</b> Riobamba, EC
<ul style="list-style-type: none"><li>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.</li></ul>	
<b>Virginia Tech Student Athletic Academic Support Services</b> Math Lecturer, Tutor	<b>Aug 2021 – May 2022</b> Blacksburg, VA
<ul style="list-style-type: none"><li>Earned highest paid undergraduate position at Virginia Tech through calculus lectures.</li><li>Improved student grades by 20-30% on average and attended training to improve teaching.</li></ul>	
<b>Virginia Tech Data Science for the Public Good</b> Undergraduate Research Intern	<b>May 2021 – Aug 2021</b> Blacksburg, VA
<ul style="list-style-type: none"><li>Accomplished 96-99% accuracy predicting vegetative health indices using machine learning algorithms.</li><li>Reconstructed an eight-dimension poverty index for the Zimbabwe Statistical Agency and quantified poverty at the district and province level from 31,193 observations.</li></ul>	

## PROJECTS

<b>Evaluating Linearized Echo State Networks, SINDy Framework, and Direct Differentiation Methods for Dynamical System Modeling</b> Advisor: Serkan Gugercin, Ph.D.	<b>Aug 2022 – May 2023</b> Blacksburg, VA
<ul style="list-style-type: none"><li>Successfully applied linearized Echo State Network models to improve chaotic dynamical system models.</li><li>Demonstrated ~20% more accuracy than SINDy when applied to the Lorenz System.</li></ul>	
<b>Eigenvalue Processing of Pendula Dynamics</b> Advisor: Mark Embree, Ph.D.	<b>Jan 2023 – May 2023</b> Blacksburg, VA
<ul style="list-style-type: none"><li>Created image-tracking algorithm to compute eigenvalues of pendula dynamics within 1% of theoretical.</li></ul>	
<b>Dopamine, Mimicry, and Value Alignment: Artificial Intelligence and Addiction</b> Advisor: Melinda Miller, Ph.D.	<b>Jan 2023 – May 2023</b> Blacksburg, VA
<ul style="list-style-type: none"><li>Illustrated six potential risks of drive-mimicry artificial intelligence and outlined economic externalities, ethical violations and human harm posed by AI-induced addiction.</li></ul>	

## SKILLS & CERTIFICATIONS

**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  
**Engineering:** Fundamentals of Engineering (FE Mechanical) Certified, CFD, FEA, CAD/CMD, Controls  
**Languages:** English (native), Spanish (fluent)