Atticus DeWitt Rex

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EDUCATION

Georgia Institute of Technology — **Aug 2024**
Master of Science in Analytics — Atlanta, GA
- Track: Computational Data Analytics

Virginia Tech — **May 2023**
Bachelor of Science in Mechanical Engineering, Computational Modeling & Data Analytics — Blacksburg, VA
- Awards: Summa Cum Laude, Honors Laureate Diploma, President's List

EXPERIENCE

Virginia Tech Department of Agriculture & Applied Economics — **May 2022 – Aug 2022**
Software Development and Data Analytics Intern — Riobamba, EC
- Developed software in CSPro 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
- Awarded highest paid undergraduate position at Virginia Tech through calculus lectures.
- Improved student grades by 20-30% on average and attended trainings to improve teaching.

Virginia Tech Data Science for the Public Good — **May 2021 – Aug 2021**
Undergraduate Research Intern — Blacksburg, VA
- Accomplished 96-99% accuracy predicting vegetative health indices using machine learning algorithms.
- Reconstructed an eight-dimension poverty index for the Zimbabwe Statistical Agency and quantified poverty at the district and province level from 31,193 observations.

PROJECTS

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

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 nonlinear dynamical system models.
- Demonstrated ~20% more accuracy than SINDy when applied to the Lorenz System.

Eigenvalue Processing of Pendula Dynamics — **Jan 2023 – May 2023**
Advisor: Mark Embree, Ph.D. — Blacksburg, VA
- Created image-tracking algorithm to compute eigenvalues of pendulum dynamics within 1% of theoretical.

Dopamine, Mimicry, and Value Alignment: Artificial Intelligence and Addiction — **Jan 2023 – May 2023**
Advisor: Melinda Miller, Ph.D. — Blacksburg, VA
- Illustrated six potential risks of drive-mimicry artificial intelligence and outlined economic externalities, ethical violations and psychological harm caused by AI-induced addiction.

SKILLS & CERTIFICATIONS

- **Technical Skills**: Python, R, SQL Server, Tableau, SQL, MATLAB, C/C++, Java, Git, Linux
- **Certifications & Training:** Fundamentals of Engineering (FE Mechanical) Certified, CFD, FEA, CAD/CMD
- **Languages**: English (native), Spanish (fluent)