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EDUCATION

Georgia Institute of Technology

PhD in Mathematics

Aug 2023 - May 2027

University of Virginia, Charlottesville, Va

M.S. in Mathematics | GPA: 3.96

Aug 2022 - May 2023

B.A. in Mathematics | B.S. in Physics, Distinguished Major Program | GPA 3.96

Aug 2019 - May 2022

EXPERIENCE

Research with Dr. You Qi, Charlottesville, Va

Summer 2021-Spring 2023

- Studied Tannaka Duality in categories of modules of Hopf algebra with Dr. You Qi
- Constructed topological invariants of 4-dimensional manifolds using the categories of modules of quantum groups.

Research with Dr. Xiaochao Zheng and Dr. Alexandre Deur, Charlottesville, Va

Summer 2020-Fall 2022

- Studied the correlation between the ellipticity of elliptical galaxies and the dark matter content of elliptical galaxies
- Published in the Monthly Notices Royal Astronomical Society
- Received a research grant through the INGRASSIA Family Scholarship

UVA Math Tutoring, Charlottesville, Va

Fall 2020-Fall 2022

- Tutored students in UVA's Math Collaborative Learning Center (MCLC)
- Courses included the calculus sequence (1-3) and junior-level (3000) math classes

Joshua Myers Valuation Solutions, Charlottesville, Va

Summer 2020

- Performed contract work for a statistical consultant
- Scraped and cleaned data from text-like files and automated file management

Internship at the VA Department of Environmental Quality

Summer 2019

- Utilized R programming to update scripts to use the tidyverse libraries
- Made website files disability compliant using MS Office software

Internship at Virginia Commonwealth University

Summer 2018-Spring 2019

- Selected to work in the VCU School of Engineering Dean's Early Research initiative in the lab of Dr. Supriyo Bandyopadhyay and Dr. Ahsanul Abeer
 - Simulated the effect of pressure on multiferroic nanomagnets with defects which resulted in two papers
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PUBLICATIONS

- [1] The effect of material defects on resonant spin wave modes in a nanomagnet, Scientific Reports, arXiv:2003.03833.
 - [2] Reliability of magnetoelastic switching of nonideal nanomagnets with defects: A case study for the viability of straintronic logic and memory Physical Review Applied, PhysRevApplied.12.034010.
 - [3] Updated Analysis of an Unexpected Correlation between Dark Matter and Galactic Ellipticity, Monthly Notices Royal Astronomical Society, doi.org/10.1093/mnras/stac3236
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AWARDS & GRANTS

Outstanding Undergraduate Physics Major Award 2022 | 2022 Edwin E. Floyd Prize in Mathematics |
3rd place, SPS December 2020 Research Symposium | UVA College Science Scholar and Echols Scholar | Eagle Scout

INVITED PRESENTATIONS

- [1] APS March Meeting 2019, Abstract: The Effect of Material Defects on Magneto-Elastic Switching
 - [2] Coxeter Systems and Examples - Talk for the Soergel Bimodules Seminar at UVA
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CODING EXPERIENCE R (Advanced) | Python, C++/ROOT (Intermediate) | C, C# (Beginner)