MAX ORTNER

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EDUCATION

Belmont University *August 2019 - Present*
Overall GPA: 3.76 Graduation Date: December 2023
President of the Society of Physics Students

WORK EXPERIENCE

Various Tutoring *January 2020 - May 2020 & November 2022-Present*

- Began tutoring Calculus I for credit in my freshman year of college
- Put tutoring at forefront this year in an effort to concentrate my attention towards physics and mathematics, primarily focusing on fundamentals

Math and Science Learning Center *August 2020 - May 2021*

- Worked for university to provide tutoring services to students for mathematics both online for a duration and in person
- Upheld rigorous health and safety standards during the pandemic

Kitchen and Restaurant Work *May 2021 - November 2023*

- Worked every position at a Red Lobster all the way up to becoming a certified restaurant supervisor where I managed the staff, restaurant in general, and handled money
- Led the line and cooked at a up-scale dining restaurant called Del Friscos

RESEARCH EXPERIENCE

Mathematics and Physics

Received award for three semesters of research conducted in topics of differential equations (categorizing various equations and studying equations of the stochastic type)

- Summer Undergraduate Research Fellowship in the Sciences (SURFS) at Belmont university during the summer of 2021 where the application of geometric algebra in undergraduate physics education was discussed

Independent Pursuit

I genuinely believe that to be a spectacular physicist, you must go beyond the undergraduate curriculum. In this pursuit, I spent the majority of my time outside of the classroom learning higher-level physics topics: Differential geometry (for GR and gauge theory), Advanced Classical Mechanics, Advanced Quantum Mechanics and where there was no one to let me lecture to (the majority of the time) I wrote. To this day have accumulated over one-hundred thousand words of derivation.

RELEVANT LINKS

Website: https://www.maxortner.com

LinkedIn: http://www.linkedin.com/in/max-ortner

References supplied on request.

TALKS & CONFERENCES

Behavior of the Airy Equation *April 2021 at BURS (Belmont University)*

· Various properties (concavity, stationary points, etc.) were investigated about the Airy equation $y'' = xy$.

Geometric Algebra for Physics *June 2021 at SURFS (Belmont University)*

· The mathematical framework of geometric algebra and the benefits of this framework in an undergraduate education on physics was given as a poster presentation.

Stochastic Differential Equations *November 2021 at BURS (Belmont University)*

· Conducted an overview of general stochastic differential equations and programmed basic simulations to show how introducing stochastic elements into a traditional constant acceleration equation can introduce unpredictable factors into a physical model.

Properties of a Nonlinear Differential Equation *April 2022 at BURS (Belmont University)*

· My mentor and I studied the behavior of a kind of nonlinear, first-order differential equation, $y' = -xy^3 + a$, determining various properties such as concavity and stationary points.

Presentation can be supplied upon request.