
Jack Fenelon

Upcoming College Graduate

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EDUCATION

Michigan State University, East Lansing, MI - *B.S. in Physics*

August 2018 - December 2022 | GPA: 3.80/4.00

About

An accomplished problem solver and a fast learner who balances creative solutioning with a methodical and systematic approach to problem solving. I am very experienced in Python, specifically in implementing the language to perform simple data analysis, solve ordinary/partial differential equations and model various physical processes. I am very experienced with python's numpy and pandas libraries, as well as data visualization libraries matplotlib and seaborn. I am well acquainted with both machine learning libraries sklearn and TensorFlow to solve problems like basic regression, logistic regression, classification, and also forecasting. I am also experienced with programming in Julia, am comfortable using MATLAB, and have working knowledge of C++. I am very familiar with working in notebook type environments (jupyter or colab) and also with pushing, pulling, cloning, etc. in git. My experience as a learning assistant has developed me into a great communicator as well as sharpened my ability to explain complicated nuanced subjects in ways that are easily understood and can be built upon.

Academic Projects

- Computational Modeling Tools and Techniques: Using ML techniques, developed an analytical and prediction model of athletic events with a 96% accuracy rate
- Classical Mechanics: Developed a model that would accurately depict the motion of a ball that would bounce off the ground with air resistance.
- Quantum Tunneling: Modeled the quantum tunneling phenomenon for the rectangular potential barrier

<https://github.com/fenelonj/Projects>

Technical Skills

- Differential equations, numerical analysis (differentiation, integration), probability and statistics, confidence intervals, linear algebra
- Coding skills: Python (Numpy, pandas, sklearn, tensorflow), Data visualization (Matplotlib), Julia, Matlab, Git, Jupyter, Colab

EXPERIENCE

Michigan State University Department of Mathematics, East Lansing, MI - *Undergraduate Learning Assistant*

August 2021- PRESENT

- Teach recitations in math classes ranging from, calculus, precalculus, and trigonometry
- Tutor in the math learning center for all math classes from college algebra all the way to linear algebra

Facility for Rare Isotope Beams, East Lansing, MI - *Student Technical Assistant*

June 2021 - August 2021

- Studied the application of the non-linear dynamical henon map to accelerator physics
- Developed a generative adversarial neural network to predict the stability region of specific frequencies in the accelerator

Washtenaw County Road Commission, Ann Arbor, MI - *Maintenance Worker*

May 2019- August 2019

- Performed various maintenance tasks such as mopping floors, cleaning bathrooms, painting walls, cutting grass, and more
- Communicated with superiors in regards to daily priorities, progress on projects, and roadblocks the team was facing with specific tasks