



# Edward Finkelstein

## Student

- 6 May 1999
- 6100 West Bennet Road  
Martell, NE, USA, 68404
- +1 516 246 4231
- LinkedIn Profile
- edfink234@gmail.com
- Coding Portfolio
- Wyzant Tutoring Profile
- Github Profile
- Research Reports/Theses
- Licenses & certifications

## Technical Skills

- C/C++/C#
- Python/Numpy/Pandas
- Matplotlib/Seaborn/sklearn
- TensorFlow-Keras/PyTorch
- CERN ROOT
- Fortran
- Mathematica
- L<sup>A</sup>T<sub>E</sub>X/TikZ
- Gnuplot
- KiCad/LTSpice
- Vi/Emacs/Unix/Linux
- Mac OS/Windows
- HTML/CSS/JavaScript/PHP
- SML

## Language Skills

- English (Native)
- Dutch (Basic)
- German (Basic)
- Danish (Basic)

## Education

### Master of Science in Physics & Minor in Machine Learning

Johannes Gutenberg University of Mainz  
German GPA: 1.4 (Magna Cum Laude & Excellence Track Physics)

Oct. 2021 - July 2023

### Bachelor of Science in Physics

Stony Brook University  
GPA: 3.76/4.00 (Magna Cum Laude & Honors in Physics)

Sept. 2017 - May 2021

### High School

Earl L. Vandermeulen High School  
Specialized in mathematics and science  
GPA: 98.65/100.00

Sept. 2014 - June 2017

## Awards

### JGU Mainz Excellence Track Certificate

July 2023

### JGU Mainz Excellence Track Scholarship Award

Oct. 2021 - July 2023

### NYS STEM Incentive Program Scholarship Award

Sept. 2017 - May 2021

### Stony Brook Presidential Scholarship

Sept. 2017 - May 2021

### AP Scholar with Distinction

May 2017

## Research Experience

### ALPS Project - AI-based Learning for Physical Simulation

Aug. 2023 - Jan 2024

Research project: Discover *interpretable* physical models and employ novel symbolic regression methods, here. TA'd for the course "Statics and Strength of Materials." References: Prof. Lucantonio, a.lucantonio@mpe.au.dk, Prof. Andriollo titioan@mpe.au.dk

### Master-Thesis - Search for Axion-like particle in exotic decays of the Higgs boson with the final states of $ll\gamma\gamma$

Oct. 2022 - July 2023

Search for  $H \rightarrow Za$  decay as external ATLAS/CERN member. Perform selection cuts on data. Rewrote analysis software in C++, here and improved ROOT RDataFrame implementations in Python and C++. Merged ROOT CERN pull-requests here. References: Prof. Schott, Matthias.Schott@cern.ch, Dr. Naumann axel.naumann@cern.ch

### Research - Search for dijet resonances in events with an isolated lepton using $\sqrt{s} = 13$ TeV proton-proton collision data collected by the ATLAS detector

May 2020 - Oct. 2021

Analysis & simulate data as external ATLAS/CERN member. Fit empirical functions to particle event data. Performed signal injections to model statistical fluctuations and search for BSM physics. Reference: Prof. Tsybychev, dmitri.tsybychev@stonybrook.edu

## Work Experience

### Para-educator

Mar. 2024 - Present

Provide instructional reinforcement & physical assistance to students. References: MacKenzie Sheaff, msheaff@lps.org, Michael Long, mlong4@lps.org

### Django Web Developer Quantum Computing

Nov. 2022 - July 2023

Converted the GUI (graphical user interface) for the quantum computer at JGU Mainz to a responsive website using Django, here. Reference: Maximilian Orth, morth@uni-mainz.de

### L<sup>A</sup>T<sub>E</sub>X and TikZ Typesetter

Feb. 2022 - Nov. 2022

Typeset hand-written notes and drawn figures for a particle detector's course at JGU Mainz in L<sup>A</sup>T<sub>E</sub>X and TikZ, here. Reference: Dr. Ulrich Müller, ulm@uni-mainz.de

### Wyzant Tutor

March 2021 - Present

Tutor undergraduate students in STEM topics such as the C/C++ and Python programming languages, as well as physics, calculus, and differential equations, here.