

Education

- **North Carolina State University** Raleigh, NC
Ph.D. Student in Nuclear Engineering 2023-Present
- **North Carolina State University** Raleigh, NC
M.S. Physics 2019
- **University of North Carolina at Greensboro** Greensboro, NC
B.S. Physics 2016
 - Graduated on Chancellor's List with Minors in Chemistry and Mathematics
 - Inducted into Phi Beta Kappa Honors Society

Skills

- Python, C/C++, GNU/Linux, PyTorch, Rust, bash/shell, SQL, MongoDB, C#, Java, code debugging, fast-learner, detail-oriented, Windows, system/network administration, Git, Deep Learning, Computer Vision, Scikit-learn, LaTeX, technical writing, technical support

Research and Work Experience

- **Invisible Technologies, Inc** San Francisco, CA (Remote)
AI Data Expert October 2022 - December 2022
 - Acted as subject matter expert for AI dataset creation
 - Worked with other experts to organize AI model testing curriculum
 - Improved models through adversarial testing
- **ExoCrypt Investments, LLC** Raleigh, NC
Data Scientist and Machine Learning Engineer August 2020 - August 2022
 - Built a framework in Python and PyTorch for the rapid training and testing of deep neural networks
 - Used ideas adapted from image classification literature to discover unique insights about market data
 - Built several Python scripts to aid data annotation performed by other team members
 - Produced performant models that could search for rare patterns within millions of hours of market data
 - Performed extensive model validation to ensure expected results across different end-user devices
- **NCSU Department of Physics** Raleigh, NC
Lead Teaching Assistant August 2018 - December 2019
 - Instructed General Physics labs in electricity/magnetism and Newtonian Mechanics for undergraduate students.
 - As Lead TA was responsible for the instruction of lab lesson plans to other TAs

- Received consistently high reviews from students regarding my communication and knowledge of the subject matter

- **NCSU Department of Physics**

Raleigh, NC

Brief Research Work

December 2018 - April 2019

- Simulated the travel of ultracold neutrons through experimental setups in C++.
- Performed data analysis using the CERN Root library
- After leaving the project I helped instruct group members to bring them up to speed on the code's inner working so that they could continue the project.

- **CData Software, Inc.**

Chapel Hill, NC

Software Developer/Technical Support Representative

March 2017 - July 2018

- Helped connect customers' databases like SQL, MySQL, etc to business intelligence sources like Salesforce, Dynamics 365, QuickBooks and dozens more
- Worked at fast pace with customers and team members to solve issues quickly
- Debugging and development in Java and C#

- **UNCG Department of Chemistry and Biochemistry**

Greensboro, NC

Undergraduate Researcher - Physical Chemistry

January 2014 - December 2016

- Programmed microcontroller for solar tracking of a linear Fresnel reflector
- Managed the operation of laser-induced photodissociation experiments of ozone with carbon tetrachloride to create chlorine monoxide
- Programmed Lua scripts in SIMION for the simulation of molecular transport to guide design of an electric molecular trap

- **UNCG Department of Physics and Astronomy**

Greensboro, NC

Undergraduate Teaching Assistant - General Physics

January 2016 - December 2016

- Aided the in-class instruction of advanced general physics classes

- **Grubbs Tree and Shrub Care**

Broadway, NC

General Laborer

2008 - 2016 (Summers)

- Performed general landscape maintenance and installation tasks

Certifications

- CompTia **Security+**, 2022

Extra

- **Side Projects**

Personal code and writing projects - see Github and personal website link at top

- Logging system in Rust
- Navier-Stokes Fluid simulation in C++
- IT tutorials for SIEM configuration and exploit detection
- Object detection with neural networks