

Education

- **North Carolina State University** Raleigh, NC
M.S.C. 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

Core Skills

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

Research and Work Experience

- **ExoCrypt Investments, LLC** Raleigh, NC
Data Scientist and Machine Learning Engineer August 2020 - May 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