Taylor E. Grubbs

August 14, 2023

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ResearchGate: researchgate.net/profile/Taylor-Grubbs
Github: github.com/tedgrubbs
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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++, Scientific Computing, GNU/Linux, PyTorch, Rust, Bash, Git, LaTeX, Technical Writing

Research and Work Experience

- **North Carolina State University** — Raleigh, NC
  Graduate Research Assistant — *January 2023 - Present*
- **Lawrence Livermore National Laboratory** — Livermore, CA
  Defense Science and Technology Intern — *May 2023 - August 2023*
  - Implemented in-line detector modeling capability in a Monte Carlo Thermal Radiative Transport (TRT) code.
  - Capability was verified on multiple test problems.
  - Presented a poster and exit talk to describe work to other interns and staff members.
- **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 transport of ultracold neutrons through experimental designs using a Monte Carlo code written 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 refelector.
  - 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 maintentance and installation tasks.

Certifications

- CompTia **Security+**, 2022

Extra

- **Side Projects**
  Personal code and writing projects - see Github link at top.
  - Logging system in Rust.
  - Navier-Stokes Fluid simulation in C++.
  - Object detection with neural networks.