

Austin Back

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Education

Clemson University Clemson, SC
Master of Physics, Condensed Matter, GPA 3.3 May 2023
Thesis: An Exploration of Superconductivity and Surface Physics of Ion Beam exposure
on Niobium

Bridgewater College Bridgewater, VA
B.S. in Physics, Double minor in Computer Science and Mathematics, GPA 3.5 May 2021

Experience

Clemson University Clemson, SC
Research Assistant July 2022 - Current

- Assembled new lab equipment and optimized setup for experiments
- Assisted in the diagnosis and repair of core systems
- Programmed an extension to existing code for generating simulated ion penetration ranges at various energies
- Collected and interpreted experimental data and results

Clemson University Clemson, SC
Graduate Teaching Assistant August 2021 - Current

- Assisted in the writing and editing of a new lab manual
- Supervised up to three lab sections per semester
- Taught students during class office hours
- Maintained lab equipment
- Graded students and provided feedback on work

Clemson University Clemson, SC
Summer Research Intern May 2019 - July 2019

- Performed a 10-week research project at Clemson's Advanced Materials Research Lab
- Operated the SEM and TEM systems to collect experimental data
- Assisted in the drawing of new fiber optics
- Concluded with the writing of a formal research paper and poster presentation
- Received a first place award for presentation of experiment at poster session

Jenzabar Harrisonburg, VA
SONIS Support Intern June 2017 - July 2017

- Educated customers on key SONIS features and uses
- Developed new documentation for SONIS features, bugs, and common issues
- Reported new bugs to SONIS team
- Troubleshooting of customer issues
- Participated in development meetings with SONIS team

Leadership & Activities

Bridgewater College Physics Club

Bridgewater, VA

Vice President

August 2020 - May 2021

- Attended club meetings to welcome members and assist in activities
- Kept records of club budget
- Assisted in presidential duties as needed
- Oversaw reorganization of club activities during the pandemic

Technology Student Association

Bridgewater, VA

Chapter President

August 2016 - May 2017

- Led monthly chapter meetings
- Coordinated duties for other chapter officers
- Communicated with other chapters to update on events and progress
- Coordinated with chapter members to ensure projects were completed on time

Awards

Dean's List - Bridgewater College - All Semesters

McKinney Ace Scholarship - Bridgewater College - All Years

Edna L. Miller and George W. Miller Family Scholarship - Bridgewater College - 2018-2021

Whitmore Sisters Endowed Scholarship - Bridgewater College - 2018-2021

TSA State Champion - 2016-2017

Destination Imagination State Champion and National Competitor - 2014

Skills & Interests

Technical: Java, SQL, Python, Assembly, Microsoft Office Suite, HTML, CSS, GO, Electrical Engineering, Javascript, computer repair and maintenance, Machine Learning, Unix, C, Stochastic Modeling, Cloud Computing, AWS

Language: Beginner Arabic and Swedish

Laboratory: SEM, TEM, EBIT, Ultra-high vacuum, SRIM, LaTeX, Data Analysis, Time Management, Problem Solving, Report Writing, Data Collection, Communication, Statistics

Interest: Computer Hardware Installation and Repair, Quantum Computing, Abstract Mathematics