Wyatt Garrett

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Education

University of Wisconsin-Madison | Madison, WI **May 2027**

B.Sc. in Engineering Physics with Nanoengineering Focus and Physics, with Certificate in Mathematics| GPA: 3.61/4.00

- **Relevant Coursework**: Semiconductor Fabrication, Vector and Complex Analysis, Linear Algebra, Calculus (I, II, III), Ordinary Differential Equations, Modern Physics, Statistics, Dynamics, Statics, Solid State Physics, Mechanics, Thermodynamics, Circuit Analysis, Fluid Dynamics, Nanomaterials, Electromagnetic Fields, Numerical Methods
  Current Coursework: Quantum Mechanics, Real Analysis, Applied Optics, Advanced Mechanics of Materials
- **Organizations:** American Nuclear Society, American Foundry Society, Wisconsin Space Program

Project and Research Experience

MRSEC REU Columbia University (Dean Lab) | Madison, WI **May 2026 – Present**

Research Assistant

Conducted research on defect and twist engineering in hexagonal boron nitride to create electrostatic gating architectures

- Used Conductive AFM scanning probe techniques to inject free charges into carbon substitution impurities in hBN
- Fabricated high-quality interfaces in twisted hBN heterostructures to investigate interplay of Moire potentials and sliding ferroelectric effects
- Presented at a university-wide poster session and wrote formal research proposals and abstracts to communicate findings

2D Quantum Materials Group (Rhodes Lab) | Madison, WI **January 2025 - Present**

Undergraduate Research Assistant

Performed research on a class of topological superconductors known as transition metal dichalcogenides for applications in condensed matter physics. Synthesized and tested varying treatments to improve crystal quality and superconductivity.

- Prepared 2M-WS_2 and T_d-WTe_2 samples using exfoliation and stacking transistor testing under varying treatments
- Operated AFM to collect nanoscale surface data and analyzed to assess sample quality
- Conducted low-temperature transport measurements for analysis of potassium deintercalation effects
- Designed and constructed nanoscale devices for ferroelectric transistor research

Cherenkov Radiation Detection Device | Madison, WI **January 2024 - May 2024**

Project Manager

Created a device to detect the output of light within a fission reactor pool and perform calculations to estimate the operational efficiency of and wattage of the reactor. Focus was on creating an airtight and submersible detector that could output to land.

- Designed and oversaw construction of devices to characterize luminous intensity of fission reactors and estimate power output based on relationships well documented in research papers
- Wrote and implemented Arduino script to store measurements to memory and interpreted output in Microsoft Excel
- Procured and interpreted research papers on luminosity to power output relationships in nuclear fission reactors
- Organized scheduling and expectations using a GANTT chart, team emails, and Microsoft Teams

Work Experience

Chili's Bar and Grill | Madison, WI **October 2025 - Present**

Server

- Maintained speed, precision, and safety standards in a fast-paced restaurant environment during daily tasks
- Showed friendly, thoughtful, and timely service to guests while upselling additional food and drink
- Used Spanish proficiency to communicate with kitchen and cleaning staff and accommodate guests

Technical Skills

Programming Languages: Java, Python, MATLAB
Applications: SolidWorks, Arduino, RStudio, Adobe Premiere Pro, Adobe Photoshop, Overleaf, EES, ANSYS
Experience: Transport Physics, 2D Materials, Atomic Force Microscopy
Languages: Spanish – Working Proficiency, Japanese – Elementary Proficiency