

Soohyun Ahn

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EDUCATION

THE UNIVERSITY OF TEXAS AT AUSTIN

Bachelor of Science in Computer Science and Physics; GPA: 4.00

Austin, TX

May 2028

Relevant Coursework: Waves & Optics, Linear Algebra, Differential Equations, Chemistry I & II

EXPERIENCE

WANG MATERIALS GROUP

Mar 2025-PRESENT

Undergraduate Researcher

- Conducting first-principles Density Functional Theory (DFT) simulations to study CdS/MoS₂ heterostructures as candidates for photocatalytic water splitting, using the Quantum ESPRESSO suite on TACC's Lonestar6 supercomputing cluster.

FRI - MAGNETIC MATTER GROUP

Jan 2025-PRESENT

Undergraduate Researcher

- Synthesized YBCO (Yttrium Barium Copper Oxide) superconductors doped with rare-earth element Dysprosium. Conducted X-ray diffraction, chemical titrations, and soldering to YBCO samples.
- Working on repairing and optimizing NMR instrumentation to investigate the properties of Yttrium.
- Leading the remake of the laboratory's website. Implementing a Flask-based backend and a responsive frontend with Bootstrap.

DRP - SOLID-STATE PHYSICS

Jan 2025-May 2025

Reader

- Engaged in weekly mentorship with graduate student Andrew Murphy to explore advanced topics in solid-state physics and quantum mechanics.
- Studied and discussed core texts such as Kittel's Solid State Physics and Griffiths' Introduction to Quantum Mechanics.
- Delivered a formal presentation on crystal structures and experimental techniques to peers and graduate mentors.

ADDITIONAL

Organizations: The Society of Physics Students, Gender Matters in Physics, WINS, Freshman Research Initiative(FRI)

Certifications: IBM: Artificial Intelligence Fundamentals, Cadence: Semiconductor 101, Certiport: Java IT Specialist

Awards: Summer FRI Fellowship, Melvin J. Rieger Scholarship Fund