

# Aiden Sirotkine

Champaign, Illinois — aidensiro@gmail.com — <https://github.com/Aiden-Sirotkine>

## EDUCATION

**University of Illinois at Urbana-Champaign — B.S. Physics** Expected May 2026  
**Concentration:** Semiconductor Tech    **Minors:** Computer Science, Music    GPA: 3.95

### Relevant Coursework:

MEMS and NEMS Fabrication — Embedded DSP — Machine Learning — Simulations

## SKILLS

**General:** Clean Room Lithography, Embedded Systems, Data Analysis, Mathematical Modeling

**Programming:** Python, Arduino, Matlab, Java, Javascript, C++, C#, C, HTML, CSS, Julia

**Software:** CAD, SPICE, Git, GitHub, AWS, OxDNA, Unity

## EXPERIENCE

**Aksimentiev Group - 2d Materials Researcher** Champaign, Illinois  
Beckman Institute January 2025 - Present

- Simulated nanoscale mechanics of DNA lattices using oxDNA to compute positional fluctuations.
- Built mathematical models to extract 2D elastic moduli (bending, torsion) from time-sequenced data.
- Developed Python tools for high-throughput MD analysis and property extraction.

## PROJECTS

**MOSFET Structure Visualization** Minneapolis, Minnesota  
Quantum + Chips Summer Program June 28th - August 10th

- Executed DFT simulations on UMN supercomputers to model and visualize semiconductor crystal structures.
- Computed electronic eigenstates using density functional theory to study energy band properties.

### IoT Climate Control System

Fort Collins, Colorado June 2024 – Active

- Designed a closed-loop atmospheric controller to regulate temperature and humidity (for my pet snake).
- Achieved sub-10ms latency and 99% accuracy across sensor, controller, and AWS cloud backend.
- Established remote access protocols for full environmental control and monitoring from anywhere.

## OTHER EXPERIENCE

**POINT VR - Unity/Sound Designer** Champaign, Illinois  
<https://icasu.illinois.edu/outreach/point-vr> August 2024 - Present

- Enhanced a VR general relativity simulation for science education using Unity.
- Composed and implemented original music and sound design for immersive learning.
- Integrated audio assets via Unity scripts in C# for dynamic in-environment playback.

**Ridgeview Classical Schools - Elementary Chess Teacher** Fort Collins, Colorado  
ChessMates October 2021 - Present

- Instructed k-12 students in chess fundamentals, strategy, and competitive play.
- Organized local tournaments and managed event logistics for youth players.
- Coached students to tournament wins in the Fort Collins area.