

# Thomas Concannon

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## EDUCATION

### Purdue University

West Lafayette, IN

*Bachelor of Science in Computer Engineering - 3.96 GPA*

*August 2022 - May 2026*

- Pursuing a Minor in Physics, Concentrations in Computer Systems, and Software Engineering
- Relevant coursework includes Data Structures & Algorithms, Microprocessor Systems, Object-Orientated Programming, Python for Data Science

## EXPERIENCE

### Rogers Imaging Corporation

Natick, MA

*Summer Intern*

*Summer 2024*

- Refactored an R-based predictive analysis tool into Python, optimized processing speed by roughly 30 times
- Employed libraries such as igraph, NetworkX, and Plotly to graph, execute algorithms, and create 3D interactive visualizations of protein interactomes
- Implemented visualizations of complex protein interactomes and used various centrality algorithms to identify the most impactful proteins to the network

### AD RayOptics

West Lafayette, IN

*Undergraduate Research Assistant*

*August 2023 - May 2024*

- Implemented 3D rendering compatibility to the program using Plotly, offering interactive and user-customizable 3D plots. Created a variety of example uses for GitHub repository
- Developed a more user-friendly function to visualize the auto-differentiation process of the sequential lens model
- Integrated functions to work cohesively with updated rendering methods. Pulled and modified code from original Python package to update necessary segments with program advancements

## LEADERSHIP

### Supplemental Instruction Leader (Circuit Fundamentals II)

West Lafayette, IN

*Purdue Academic Success Center*

*August 2024 - Present*

- Facilitated in-person sessions, providing a structured environment for students to learn and collaborate successfully
- Developed and organized session plans tailored to reinforce course content and address student needs

### Undergraduate Teaching Assistant

West Lafayette, IN

*Purdue Physics Department | Purdue ECE Department*

*January 2023 - May 2024*

- Supported students struggling with breadboard design in digital logic circuits. Guided students in debugging and optimizing SystemVerilog code, enhancing their learning experience
- Assisted in leading the entry-level physics classrooms. Fostered group engagement by playing an active role in students' learning environment

## PERSONAL PROJECTS

### Particles | HTML, CSS, JavaScript

July 2024

- Particle Life, a computational art project that simulates interactions between particles based on randomized forces
- Graph Playground, a force-directed graph visualization tool aiding those learning graph theory and algorithms

### Personal Website | HTML, CSS, JavaScript

June 2024

- A personal portfolio giving a more thorough look at projects worked on and other experiences

### IceBreak | Python, Flask, SQLite, HTML, CSS

March 2024

- IceBreak uses OpenAI's API to match users at social events by interests, guaranteeing a 90% success rate

## TECHNICAL SKILLS

**Languages:** Python, C, C++, JavaScript, HTML, CSS, Matlab

**Frameworks & Libraries:** Flask, Matplotlib, pandas, Plotly, igraph, NetworkX

**Tools & Technologies:** Git, Bash, SystemVerilog, SQLite