Thomas Concannon

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Education

Purdue University August 2022 – May 2026

Bachelor of Science in Computer Engineering - ***3.96 GPA*** *West Lafayette, IN*

- 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 Summer 2024

Summer Intern *Natick, MA*

- 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 August 2023 - May 2024

Undergraduate Research Assistant *West Lafayette, IN*

- 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) August 2024 - Present

Purdue Academic Success Center *West Lafayette, IN*

- 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 January 2023 - May 2024

Purdue Physics Department | *Purdue ECE Department* *West Lafayette, IN*

- 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