Nicholas Reardon

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Portfolio • LinkedIn Profile

EDUCATION

PURDUE UNIVERSITY **Expected May 2025**
Bachelor of Science | Major in Computer Science; Minor in Economics *West Lafayette, IN*

EXPERIENCE

SOFTWARE ENGINEERING INTERN **May 2024 - July 2024**
Peckish *Amsterdam, Netherlands*

- Produced an internal monitoring API with a Flask backend and Bootstrap frontend, enabling managers to monitor user interactions in real-time, increasing response time to user behavior by 45%.
- Fine-tuned two AI models (Apple's 4M and Google's PaliGemma) on Google Vertex AI Workbench, enabling accurate detection and counting of ingredients within images, with a dataset of over 10,000 images.
- Restructured the Roboflow database, optimizing 40+ tables containing 200,000+ records from PostgreSQL scripts, collaborating closely with tech leads, and improving data retrieval efficiency by 40%.

UNDERGRADUATE COMPUTING RESEARCHER **January 2024 - May 2024**
Purdue Department of Biological Sciences *West Lafayette, IN*

- Implemented software pipelines and visualization tools for the lab group to interpret rubisco chaining properties, dealing with complex linear algebra and microbiological concepts.
- Wrote documentation on the existing MATLAB and JavaScript codebase, assisting in the optimization of analyzing 100,000+ elements across 10+ different testing environments.

COMPUTER SCIENCE TEACHING ASSISTANT **July 2023 - August 2023**
Purdue Computer Science *West Lafayette, IN*

- Mentored 35+ students' transition to Purdue's Computer Science curriculum.
- Conducted 18 coding labs and provided one-on-one assistance, helping students understand the fundamentals of Computer Science and the process of creating a scalable software project.

SOFTWARE ENGINEERING INTERN **May 2022 - August 2022**
Netchex *Mandeville, LA*

- Developed an internal notification system using Azure Logic Apps that has been utilized for 24 months.
- Streamlined the company pull-request process and automated the review messaging system via the Zoom API.

PROJECTS

3D GRAPHICS ENGINE **Jan 2024 - Aug 2024**
Personal Project *West Lafayette, IN*

- Created a foundational 3D engine in C++ from scratch using DirectX, including window creation, COM object management, hardware inputs, and message/error handling.
- Engineered a graphics pipeline with advanced shader programming and graphics techniques, such as dynamic lighting, texture mapping, and a controllable GUI.

OCCLUSION CULLING ALGORITHM **Oct 2023 - Dec 2023**
Purdue Computer Science *West Lafayette, IN*

- Designed an efficient Occlusion Culling algorithm for real-time 3D rendering within the Unity game engine, improving performance by 40% and frame rates by 25%.
- Leveraged C# programming language to develop the Occlusion Culling system, ensuring seamless integration with Unity's scripting API and optimizing code for maximum performance.
- Integrated Blender into the workflow for 3D model optimization and scene preparation.

SKILLS

Coding Languages: Java, C++, Python, C, Javascript, C#, MATLAB
Tools: OpenGL, DirectX, SQL, Blender, Unity, Git, Google Cloud, Visual Studio, Roboflow, WindowsAPI, Flask