

# Henry Redder

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## Education

2021 – Present      **Ohio State University**, Columbus, OH  
Junior in the honors college. Double majoring in Computer Science and Engineering (CSE) and Math. Member of OSU's Cybersecurity club.  
3.951 Cumulative GPA

## Awards and Achievements

- Provost Scholarship Award
- Dean's List – All semesters
- 2<sup>nd</sup> Place Outstanding Achievement in Engineering Award and Scholarship – 2022 FEH Robot Competition
- 1<sup>st</sup> Place in 2022 HackOHI/O AEP Challenge
- 1<sup>st</sup> Place in 2023 HackAI Competition

## Work Experience

**Undergraduate Research Assistant (Photogrammetric Computer Vision Lab)** June 2023 – Present  
Ohio State College of Engineering, Columbus, OH

- Worked under Dr. Alper Yilmaz on making drone geopositioning algorithms more efficient.
- Currently working on applications of CLIP models to synthetic aperture radar data.
- Developed the website for the ISPRS Technical Commission II Symposium. The URL to the webpage is <https://www.isprs.org/tc2-symposium2024/>

**AI Edge Undergraduate Fellow** May 2024 – June 2024

Ohio State College of Engineering, Columbus, OH

- Worked with the Ohio State Wexner Medical Center and the UNC's School of Medicine
- Developed machine learning models to predict patient recovery from sensorineural hearing loss

**Software 2 Student Instructional Assistant** August 2022 – December 2022

Ohio State College of Engineering, Columbus, OH

- Graded homework and projects and helped in lab for Software 2.
- Helped students learn about software design, data structures, hashing, tokenizers, recursive descent parsers, code generators, and more.

**Software Engineering Intern** May 2022 – August 2022

RxGames, Columbus, OH

- Worked with a team to develop software and internal tools to help people with injuries and disabilities.
- Used C# and Unity alongside Azure DevOps and Git to collaborate and develop software.

**Software 1 Student Instructional Assistant** January 2022 – May 2022

Ohio State College of Engineering, Columbus, OH

- Graded projects, helped in lab, and helped teach students Java, data structures, and fundamental software development.

## Technical Skills

Java, C#, C++, C, MATLAB, x86-64, Python, Git, Unix/Linux Navigation & Scripting, GDB, LaTeX, Photogrammetry, Neural Networks, CAD (SolidWorks), PyTorch, NumPy.

## **Current & Completed Graduate Coursework**

CSE 5526 - **Introduction to Neural Networks**

CSE 5474 - **Software Security**

MATH 5801 - **General Topology & Knot Theory**

## **Major Topics**

MLPs, CNNs, Recurrent Networks, Boltzmann Machines, Deep Learning, Radial Basis Networks, SVMs

Binary Analysis, Shell coding, Defense Mechanisms, Stack Exploits, Format String Exploits, Heap Exploits, Fuzzing

Topological Spaces, Metric Spaces, Connectedness, Compactness, Separation and Countability axioms, Classification of Surfaces, Knot Theory, Alexander & Jones Polynomials