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
- 2nd Place Outstanding Achievement in Engineering Award and Scholarship – 2022 FEH Robot Competition
- 1st Place in 2022 HackOHI/O AEP Challenge
- 1st 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 positioning algorithms more efficient.
- Developed C++ applications with multithreading and GPU support to run positioning efficiently.
- Developed the website for the ISPRS Technical Commission II Symposium. The URL to the webpage is https://www.isprs.org/tc2-symposium2024/
- Working on detecting changes in Earth's gravitational field and developing geopositioning algorithms for hypersonic platforms.

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	**Major Topics**
CSE 5526 - **Introduction to Neural Networks**	MLPs, CNNs, Recurrent Networks, Boltzmann Machines, Deep Learning, Radial Basis Networks, SVMs
CSE 5474 - **Software Security**	Binary Analysis, Shell coding, Defense Mechanisms, Stack Exploits, Format String Exploits, Heap Exploits, Fuzzing
MATH 5801 - **General Topology & Knot Theory**	Topological Spaces, Metric Spaces, Connectedness, Compactness, Separation and Countability axioms, Classification of Surfaces, Knot Theory, Alexander & Jones Polynomials