
Research Interests

Computer Vision, Computational Imaging, Robot Sensing

Education

2020-Present **University of Wisconsin – Madison: PhD Computer Science**

2020-22 **University of Wisconsin – Madison: M.S. Computer Science**

Graduated 2020 **Drury University: B.S. Computer Science**
Minor: Mathematics | GPA: 3.99

Experience

Aug. 2022 **Graduate Research Assistant**
to present **University of Wisconsin – Madison**

- Mentor to three undergraduate students working on robot sensing; held weekly meetings, helped students set long term goals

Summer 2022 **Machine Vision Research Intern**
CyberOptics | Minneapolis, MN

- Developed deep learning based semantic segmentation model for fast automatic segmentation of printed circuit boards
- Collaborated across engineering department to gather and curate training data, understand business needs, and disseminate knowledge

Aug. 2020 **Graduate Teaching Assistant**
to May 2022 **University of Wisconsin – Madison**

- Computer Graphics (Fall 2021, Spring 2022)
- Grader for Computer Vision (Fall 2021)
- Intro to Programming (Fall 2020, Spring 2021)

Summer 2021 **Research Mentor**
Summer STEM Institute | Remote

- Mentored research with two students, hosted office hours, gave guest lecture

Summer 2019 **NSF Research Experience for Undergraduates**
University of Missouri – Columbia

- Developed integrated system for collection of depth video
- Adapted action recognition neural network to newly gathered field data

Summer 2018 **Software Intern**
Cerner | Kansas City, MO

- Created React-based web interface to replace desktop-based physician portal

Publications

- 2023 **C. Sifferman**, Y. Wang, M. Gupta, M. Gleicher. Unlocking the Performance of Proximity Sensors by Utilizing Transient Histograms. *In Review*.
- 2023 Y. Wang, **C. Sifferman**, M. Gupta, M. Gleicher. Exploiting Task Tolerances in Mimicry-based Telemanipulation. *In Review*.
- 2022 **C. Sifferman**, D. Mehrotra, M. Gupta, M. Gleicher. [Geometric Calibration of Single-Pixel Distance Sensors](#). Robotics and Automation Letters (RA-L). *In Proceedings International Conference on Intelligent Robots and Systems (IROS)*, 2022.
- 2019 Z. Moore, **C. Sifferman**, S. Tullis, M. Ma, R. Proffitt, M. Skubic. [Depth Sensor-Based In-Home Daily Activity Recognition and Assessment System for Stroke Rehabilitation](#). *IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, 2019.

Presentations

- Poster, 2020 **C. Sifferman**, G. Bushman. SQFT: An Application for Room Size Estimates Using Machine Learning. *CCSC Central Plains Region Conference*, April 2020.
- Oral, 2020 **C. Sifferman** Using Machine Learning to Assess Stroke Patient Recovery. *Missouri State University MAKO Undergraduate Mathematics Research Conference*, November 2019.

Selected Achievements / Awards

- 2021 CS Departmental Summer Research Assistantship (UW-Madison)
- 2020 CS Departmental First Year Scholarship (UW-Madison)
- 2019 Phi Kappa Phi Honor Society (Drury University)
- 2017 Judge Warren White Scholarship (Drury University)
- 2017 Outstanding Freshman in Computer Science (Drury University)

Mentoring

- 2023 Kwasi Debrah-Pinamang | Mobile Robot Sensing and Control
- 2023 Prannav Arora | Mobile Robot Sensing and Control
- 2023 Ben Weinstein | Hardware Design for Distributed Robot Sensing
- 2022-23 Pittawat Sawatyanon | Firmware for Low Level Access to SPAD-Based ToF Sensors
- 2021-2022 Dev Mehrotra | Characterization and Development of SPAD-Based ToF Sensors

Other Service

- 2021-23 Volunteer Tour Guide & Mentor for Prospective Graduate Students – UW-Madison
- 2019 Volunteer Referee – FIRST Robotics Competition
- 2017-2020 New Student Orientation Leader – Drury University

Skills

Programming: Python (PyTorch, NumPy, Pandas), ROS, Java, MATLAB, GAMS

Web: JavaScript (React, Three.js), HTML, CSS, WebGL

Tools: Unix, Git, LaTeX, Docker, Photoshop, Illustrator