Priyankari Perali

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EDUCATION

Texas A&M University, College Station, Texas
Master of Science, Computer Science   May 2025
Thesis: Unprompted Touch by a Victim with a Search and Rescue Robot
Advised by: Robin Murphy, Ph.D

The Ohio State University, Columbus, Ohio
Bachelor of Science, Computer Science and Engineering (Artificial Intelligence)   May 2022
Humanitarian Engineering Scholar

PEER REVIEWED PUBLICATIONS PUBLISHED

1. Thomas Manzini, **Priyankari Perali**, and Robin R Murphy. Three challenges in utilizing machine learning to predict human behavior from observational data. In Companion of the 2024 ACM/IEEE International Conference on Human-Robot Interaction, pages 737–739, 2024.
2. **Priyankari Perali***, Lance G Fletcher*, Andrew Beathard, and Jason M O'Kane. A visibility-based escort problem. In 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), pages 4804–4811. IEEE, 2023.

PEER REVIEWED PUBLICATIONS SUBMITTED

1. Thomas Manzini**, Priyankari Perali**, Raisa Karnik, and Robin Murphy. Crasar-u-droids: A large scale benchmark dataset for building alignment and damage assessment in georectified suas imagery. arXiv preprint arXiv:2407.17673, 2024. (Submitted September 2024 to International Journal of Computer Vision)
2. **Priyankari Perali** and Robin Murphy, Unprompted Touch with Touch Surface Characteristics: A Survey. 2024 (Submitted August 2024 to ACM Transactions on Human-Robot Interaction)

RESEARCH WORKS IN PROGRESS

1. **Priyankari Perali***, Thomas Manzini*, Raisa Karnik, Mihir Godbole, Hasnat Abdullah, and Robin Murphy. Non-uniform spatial alignment errors in suas imagery from wide-area disasters. arXiv preprint arXiv:2405.06593, 2024

PRESENTATIONS

Using AI to Assess Hurricane Damage   November 2024
Weather Geeks Podcast

CRASAR: A Large Scale Benchmark Dataset for Building Alignment and Damage Assessment   September 2024
in Georectified sUAS Imagery
Military Operations Research Society (MORS)

CRASAR: A Large Scale Benchmark Dataset for Building Alignment and Damage Assessment   August 2024
in Georectified sUAS Imagery
MIT Lincoln Laboratory

Unprompted Touch Interaction between a Victim and Search and Rescue Robot in a Disaster   April 2024
Texas Regional Robotics Symposium (TEROS)

Three Challenges in Utilizing Machine Learning to Predict Human Behavior from Observational Data   March 2024
Companion of the 2024 ACM/IEEE International Conference on Human-Robot Interaction

RESEARCH EXPERIENCE

Texas A&M University, College Station, TX   May 2023 – Present
Graduate Research Assistant for the Humanitarian Robotics and Artificial Intelligence Laboratory (HRAIL)

- Curated CRASAR-U-DRIODS, the largest dataset of drone orthomosaic disaster imagery for building damage and road damage assessments, and spatial alignment consisting of ~67 gigapixels of imagery

- Implemented semantic segmentation models, using PyTorch, for automating building damage and road damage assessments
- Evaluated semantic segmentation models in real disaster response efforts, with inference times of a maximum 5 minutes for a single orthomosaic, assisting emergency managers
- Collaborated with multidisciplinary researchers from human factors and industrial systems engineering to define machine learning objectives for reducing worker human error in high-risk environments
- Developed pipelines and machine learning models predicting human behavior in real-time procedural tasks in high-risk environments
- Applied effective oral and presentation skills to share laboratory research with university leadership and stem outreach programs

WORK EXPERIENCE

Cardinal Health, Columbus, OH   May 2021 – August 2021
Information Technology Intern for Digital Solutions Team
- Centralized Cardinal Health's external and internal data sources with Google Cloud Platform
- Implemented data visualizations with AtScale Integrated Semantic layer and integrated data pipelines for future supply chain optimization machine learning project

Huntington National Bank, Columbus, OH   June 2020 – August 2020
Programmer Intern
- Resolved software vulnerabilities with Veracode for internal loan application
- Designed and migrated internal product team SharePoint site improving access to resources and ease of use
- Improved accessibility for diversity and inclusion resources within employee website

SERVICE, LEADERSHIP AND TEACHING

Website Co-Chair, Society of Women Engineers   August 2021 – May 2022
The Ohio State University
Peer Mentor, Humanitarian Engineering Scholars Program   August 2021 – May 2022
The Ohio State University
Teaching Assistant for Intro to C++ Programming   January 2020 – January 2022
The Ohio State University
Professional Development Co-Chair, Humanitarian Engineering Scholars Program   August 2019 – May 2020
The Ohio State University

REVIEWS

IEEE/RSJ International Conference on Intelligent Robots and Systems 2024
ACM/IEEE International Conference on Human-Robot Interaction 2024

SKILLS

Programming Languages: Python, C++, Java, C, HTML, JavaScript
Frameworks & Libraries: PyTorch, TensorFlow, ROS, CUDA
Cloud & Platforms: Google Cloud Platform (GCP), AtScale

AWARDS

First Place, First-Year Engineering Design Showcase Track Competition   May 2019