

Monish Reddy Kotturu

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EDUCATION

University of Massachusetts Lowell

Lowell, MA

M.S. in Computer Science

Sep. 2023 – May 2024

Master's Thesis Topic: Optimizing communication in team networks with agents of different levels of competencies

University of Massachusetts Lowell

Lowell, MA

B.S. in Computer Science, Minor in Mathematics; GPA: 3.823; Honors College; Dean's List *Sep. 2020 – May 2023*

Honors Thesis Title: "Improving Team Performance in Noisy Multi-Agent Teams Playing Multi-Armed Bandits"

EXPERIENCE

The AI-CARING Institute

Lowell, MA

Graduate Research Assistant

August 2023 – Present

- Applying multi-agent multi-armed bandits in a healthcare setting to model trust dynamics and robot affiliation among people with mild cognitive impairment

Persistent Autonomy and Robot Learning (PeARL) Lab

Lowell, MA

Undergraduate Research Assistant, ARL STRONG Project (Cycle 1 – Present)

March 2022 – Present

- Implemented communication optimization algorithms on team networks in the multi-agent multi-armed bandit framework to optimize team performance
- Used parallel processing and a JIT compiler to speed up the simulations over 500x

Undergraduate Research Assistant, ARL STRONG Project (Seedling – Present)

Sep 2020 – Present

- Created a 2D browser game to evaluate human-robot trust in a search and rescue situation
- Deployed over 30 variations with different game conditions to conduct virtual experiments through Amazon MTurk and automated the analysis of the study results by developing pipelining scripts

Kaizntree

Remote (Sydney, Australia)

Frontend Web Developer Intern

Jun 2021 – Sep 2021

- Programmed GUI components using Vue.js that interact with a REST API in Django to retrieve and display information and provide inputs for the user to modify data in a web application
- Debugged existing components and designed a user experience to minimize user effort and time

PROJECTS

Medication Delivery Robot | ROS, OpenCV

March 2023 – April 2023

- Designed and implemented a working prototype of a medication delivery robot with a high level of autonomy that uses face detection and autonomous navigation to deliver medication to older adults in an assisted living facility

Northeast Robotics Colloquium Website | HTML, Tailwindcss, JS, Leaflet, Vite

Jun 2022 – Oct 2022

- Created the website for NERC 2022 and maintained up-to-date information about the event details

PUBLICATIONS

- "Do Humans Trust Robots that Violate Moral-Trust?," ACM THRI, 2023 (under review).
- "The Effect of Performance-Based Compensation on Crowdsourced Human-Robot Interaction Experiments," JSW, 2023.
- "The Reason for an Apology Matters for Robot Trust Repair," ICSR, 2022.

LEADERSHIP

Programming Mentor

September 2023 – Present

FTC Team 14875

Natick, MA

- Mentored Team 14875 in Natick as a programming mentor, providing guidance on challenges such as computer vision and PID control

TECHNICAL SKILLS

Languages: Python, HTML/CSS/JavaScript, C/C++, L^AT_EX

Frameworks and Technologies: React.js, Node.js, Tailwind CSS, Heroku, MongoDB

Developer Tools: Git, Linux, VS Code, Vim, Visual Studio

Libraries: NumPy, Matplotlib, NetworkX, Numba, jQuery