

# Monish Reddy Kotturu

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## EDUCATION

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**University of Massachusetts Lowell** Lowell, MA  
*M.S. in Computer Science* *Sep 2023 – Jul 2024*

Master's Thesis Title: Enhancing Team Performance in Multi-Agent Multi-Armed Bandits through Optimization

**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 Project Title: Improving Team Performance in Noisy Multi-Agent Teams Playing Multi-Armed Bandits

## EXPERIENCE

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**Cognex Corporation** Natick, MA  
*Associate Software Engineer* *Jun 2024 – Present*

**The AI-CARING Institute** Lowell, MA  
*Graduate Research Assistant* *Aug 2023 – Jul 2024*

- Researching ways in which AI agents and robots can be used to support older adults with mild cognitive impairment (MCI) and their caregiver network with a focus on improving human-robot trust

**Persistent Autonomy and Robot Learning (PeARL) Lab** Lowell, MA  
*Undergraduate Research Assistant, ARL STRONG Project* *Mar 2022 – Jul 2024*

- 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* *Sep 2020 – Jul 2024*

- 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 and debugged existing components that interact with a REST API to modify data in a webapp and designed a user experience to minimize user effort and time

## PROJECTS

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**Medication Delivery Robot | ROS, OpenCV** *Mar 2023 – Apr 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

## HIGHLIGHTED PUBLICATIONS

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- “Relational Weight Optimization for Enhancing Team Performance in Multi-Agent Multi-Armed Bandits,” MECC 2024.
- “Do Humans Trust Robots that Violate Moral-Trust?,” ACM THRI, 2024.
- More papers published and posters presented in the field of HRI and Multi-Agent Systems.

## LEADERSHIP

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**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

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**Languages:** Python, HTML/CSS/JavaScript, C/C++,  $\LaTeX$

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

**Libraries:** NumPy, Matplotlib, PyTorch, NetworkX, OpenCV, Numba, jQuery

**Developer Tools and more:** Git, CI/CD, Linux, Vim, VS Code, Visual Studio