Arihant Yadav

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Education

University of Florida

Doctor of Philosophy in Human Centered Computing

Columbia University

Masters in Mechanical Engineering

• Concentration in Robotics and Control

Experience

Research Assistant

University of Florida

- Research assistant at the Jain Lab, advised by Dr. Eakta Jain
- Working in collaboration with Seattle Children's Hospital on the AVAIL Project
- Developing algorithms to effectively privatize audio data collected from target population

Research Intern

Robotics and AI Institute (formerly The Boston Dynamics AI Institute)

- Research intern in the Robotics, Ethics, and Society (RES) Team, under Dr. Kate Darling
- Developed and conducted a Human-Robot Interaction study with 40+ participants
- Implemented 'behaviors' on Boston Dynamics' Spot platform using ROS2, and RAI's in house SDK, simulating good and bad behaviors based on human-animal interaction paradigms

Teaching Assistant, Research Assistant

Columbia University

- Research assistant at the Robotics and Rehabilitation (RoAR) Lab.
- Worked on motion data capture from target populations (older adults, spinal cord injury patients) using VICON system, and analyzed said data in my roles as an RA
- Teaching assistant for MECE 3450: Computer Aided Design and MECE 6400: Advanced Machine Dynamics

PUBLICATIONS

[1] Yadav, A., Rajagopalan, S., Purohit, A., Singh, J. (2023). Variable dropout one-dimensional CNN for vibration-based shaft unbalance detection in industrial machinery. Journal of Vibration Engineering Technologies, 11(1), 301-318.

[2] Adeniyi, A., Stramel, D. M., Rahman, D., Rahman, M., Yadav, A., Zhou, J., ... Agrawal, S. K. (2023). Utilizing mobile robotics for pelvic perturbations to improve balance and cognitive performance in older adults: a randomized controlled trial. Scientific reports, 13(1), 19381.

Skills

- Computer-Aided Design: SolidWorks, Creo, OnShape
- Data Processing: Numpy, Pytorch, Keras, TensorFlow, Image Processing (OpenCV, Simulink, Pillow), Audio Processing (Librosa, Praat)
- Finite Element Analysis: ANSYS, ADAMS
- **Programming:** C, C++, Python
- Microcontrollers: Arduino, Raspberry Pi
- Modelling and Simulation: ROS/ROS2, Pybullet, Isaac Gym

Service

Gainesville, FL August 2024 - Present New York, NY August 2022 - December 2023

> August 2024 – Present Gainesville, FL

January 2024 – August 2024 Cambridge, MA

Camoriage, MA

2025

Daring

August 2022 - December 2023 New York, NY

^{1.} Reviewer for Transactions on Applied Perception (TAP)