

ATHARVA PUSALKAR

Pittsburgh, PA, USA

[atharva-18.github.io](https://github.com/atharva-18) [✉ apusalka@andrew.cmu.edu](mailto:apusalka@andrew.cmu.edu) [in linkedin.com/in/atharva-pusalkar](https://www.linkedin.com/in/atharva-pusalkar) github.com/atharva-18

Education

Carnegie Mellon University - School of Computer Science

Aug 2022 – May 2024

Master of Science in Robotic Systems Development

Pittsburgh, PA, USA

Advisors: Yonatan Bisk (Meta AI, CMU LTI) and Zackory Erickson (CMU RI)

University of Mumbai - DJ Sanghvi College of Engineering

Aug 2018 – May 2022

BEng in Electronics Engineering (8.81/10.0)

Mumbai, MH, India

Relevant Coursework

- Manipulation, Estimation, and Control
- Introduction to Computer Vision
- Systems Engineering and Management for Robotics
- Robot Mobility in Land, Air, and Sea

Experience

Hello Robot Inc

May 2023 – Aug 2023

Robotics Engineer Intern

Martinez, CA

- Building mobile robots that help make embodied AI and robotics more accessible to people.
- Serving demands of AI research groups at Meta AI, Allen Institute (AI2), Apple, CMU, MIT, and more, by delivering quality software components.
- Developing the ROS 2 infrastructure of our flagship product - Stretch 2.

Robotic Caregiving and Human Interaction Lab - CMU Robotics Institute

Oct 2022 – present

Research Volunteer and MRSD Capstone Project

Pittsburgh, PA

- Working with Prof. Zackory Erickson to research topics in intelligent interaction and embodied AI.
- Paper accepted at IEEE RA-L and ICRA 2024.

DJS Racing

Mar 2019 – May 2022

Design Engineer

Mumbai, India

- Led a team of 20 members to develop an autonomous Formula Student race-car.
- Designed a data acquisition system using the CAN protocol for automotive-grade safety.
- Developed a robotic system using 3D perception, planning, and motion control for race-cars.

Open Robotics

May 2021 – Aug 2021

Google Summer of Code Student Developer

Remote

- Worked at Open Robotics to add new features in Gazebo Simulator, funded by Google.
- Added the capability to visualize joints, inertia, and center of mass of robot models in simulation worlds.
- Added transparent and wireframe modes to 3D models using Ogre3D rendering engine and NVIDIA Optix (C++).

Research

- Puthuveetil, K., Wald, S., **Pusalkar, A.**, Karnati, P., & Erickson, Z. Robust Body Exposure (RoBE): A Graph-based Dynamics Modeling Approach to Manipulating Blankets over People.
Accepted at IEEE RA-L 2023 and ICRA 2024

Projects

Telepresence mobile manipulator robot (MRSD capstone)

Sep 2022 - present

- Developing a mobile manipulator robot with telepresence capability to assist the elderly in nursing homes.
- Working on state-of-the-art multimodal robot navigation, 3D LiDAR SLAM, and visualization.
- Pursuing research in open-vocabulary mobile manipulation in dynamic indoor environments.

Wireless Data Transceiver

Dec 2020 - Apr 2021

- Worked on an IIoT product for wireless data transmission using the LoRa mesh system.
- Added MODBUS protocol and Ethernet interface for increased compatibility.
- Implemented the MISRA C standard and an OTA update system for the device.

Technical Skills

Languages: Python, C++, JavaScript

Libraries: OpenCV, PyTorch, Eigen, CGAL

Technologies/Frameworks: Linux, AWS, Git, CMake, Jenkins, Google Test (C++), Robot Operating System, Ogre3D