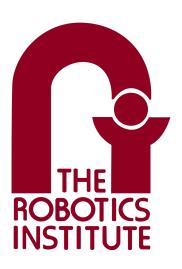
MRSD Wiki Entry - Proposal



Lunar ROADSTER

Team I

Author: **Ankit Aggarwal** Andrew ID: ankitagg E-mail: ankitagg@andrew.cmu.edu Author: **Deepam Ameria** Andrew ID: dameria E-mail: dameria@andrew.cmu.edu Author: **Bhaswanth Ayapilla**Andrew ID: bayapill
E-mail: bayapill@andrew.cmu.edu

Author: **Simson D'Souza** Andrew ID: sjdsouza E-mail: sjdsouza@andrew.cmu.edu Author: **Boxiang (William) Fu**Andrew ID: boxiangf
E-mail: boxiangf@andrew.cmu.edu

Supervisor: **Dr. William "Red" Whittaker**Department: Field Robotics Center
E-mail: red@cmu.edu

March 8, 2025



1 Proposal

The current Docker resources on the Robotics Knowledgebase MRSD Wiki provide a basic introduction but could benefit from additional depth to better support practical applications in robotics workflows. For example, the commands presented are foundational but do not delve into advanced usage scenarios. To make the Wiki more comprehensive and practical, we think that more detailed guidance should be added on working with Docker in complex setups, especially for robotics projects that involve multi-architecture builds, managing configurations, and deploying custom containers.

To improve the MRSD Wiki's coverage of Docker, our team recommends including the following topics:

- Working with Docker Images and Containers
- Understanding and Using Volumes
- Setting Up a Dockerfile
- Using Entrypoint Scripts
- What is Docker-Compose?
- Writing and Launching a Docker-Compose File
- Pushing Custom-Built Images to a Docker Registry
- Building Docker Images for Multiple Architectures

Many of these topics arose while working on our Jetson setup, and we believe that addressing them in the Wiki will provide valuable insights for other MRSD students and teams navigating similar challenges.

A comprehensive guide covering all these topics has been developed and can serve as a reference for updating the Wiki. The guide is available here: Docker for Robotics by Bhaswanth Ayapilla