Competition Overview

Wisconsin Robotics is made possible through generous donations from our sponsors. These contributions, both financial and in-kind, allow the team to develop advanced robotics systems for international competitions and to remain involved in community outreach to inspire K-12 students to pursue STEM. We are grateful for the continued support of our sponsors, University, and extended community. To this end, we have compiled a newsletter detailing our performance at the University Rover Challenge, our next steps, and activity since our last update.

Wisconsin Robotics competed at the University Rover Challenge in Hanksville, Utah, from May 31st to June 2nd. Over the course of the competition, our rover, Ascent MkII, competed in four tasks: Extreme Retrieval and Delivery, Equipment Servicing, Autonomous Traversal and Science Cache. 95 teams applied to have a chance to compete at the University Rover Challenge. Of those 95, 36 teams from 10 different countries were accepted, and of those 36, Wisconsin Robotics’ Ascent MkII secured a 16th place finish.

Extreme Retrieval and Delivery

Our first task, Extreme Retrieval and Delivery was comprised of two stages filled with a variety of different objectives. The first objective involved picking up and delivering a tool box to an astronaut at a predetermined location while traversing difficult terrain. Ascent MkII was able to make its way to the tool box before suffering from a combination of hardware and software issues. These issues prevented proper communication with the system and the manipulator specifically. The team was forced to end the task prematurely due to this issue.

Equipment Servicing

The Equipment Serving task for this year consisted of several small objectives such as flipping switches, using hand tools and typing on a keyboard to prepare a simulated rocket for launch. Ascent MkII made its way through the list of objectives until function of the manipulator was lost due to hardware issues. Despite the loss of function, the team was still able to continue completing objectives until time expired.

Autonomous Traversal

For the Autonomous Traversal, each team is tasked with traversing to a number of given GPS coordinates marked by tennis balls. This year the task proved to be extremely challenging with only 7 teams being able to score any points. Ascent MkII was able to drive autonomously, but suffered difficulty in locating the first set of coordinates. After several attempts, the team was forced to stop as time ran out.
Science Cache

Science Cache task featured two segments: one involving the rover collecting a soil sample in the field while also conducting environmental evaluations, and another involving a lab analysis of the collected sample conducted by team members. During the soil collection part of the task, the rover was able to secure a soil sample from the appropriate depth, store it in a container, and seal the container all without human intervention. The rover successfully measured temperature and humidity from the excavated hole, but was unable to capture a microscopic image within the time limit. The team analyzed the soil sample through a variety of chemical and geological experiments to determine the viability of life existing in the soil. This was followed by a presentation of our findings.

Upcoming Outreach

Maker Faire Milwaukee - September 29th, 2018

This September the team will be returning to Maker Faire Milwaukee at the Wisconsin State Fair Park in West Allis. Ascent MkII, the latest rover, will be on display, as well as various other smaller team projects.

Wisconsin Science Festival - October 11-14th, 2018

One of the longest and widest reaching events of the year, Wisconsin Robotics will be returning again to the Wisconsin Science Festival event hosted by the Wisconsin Institute of Discovery this Fall as part of the Robot Zoo. With a huge emphasis on hands-on experiences, the team will allow participants of all ages to control some of the teams minibots, while team members will be showing off the rover as well.