

Robot Builders Night Virtual for December 2nd, 2025

Video:

https://youtu.be/PK_9Zxyrtks

Key Discussion Points

1. Progress and Challenges in Mini Sumo Robot Design

Mike Williamson shared updates on designing a mini-sumo robot with off-the-shelf parts, focusing on compactness and performance within constraints like size and component space.

Discussions involved the placement and function of sensors, circuit board design, and navigating design challenges like sensor placement and battery size considerations.

Karim Virani and Mark Dombrowski (madone) contributed practical advice for optimizing sensor use and managing physical constraints.

2. Innovations in Six-Can Robotics Challenge

Ray Casler presented a novel approach involving an air-powered propulsion system to enhance speed in the Six-Can challenge, sparking discussions about its potential efficiency and related safety concerns.

The group humorously debated alternative power sources, like steam, and considered the practicality of these ideas in live competitions.

Attention was given to regulatory concerns, particularly with the proposed use of high-pressure systems and alternative propulsion methods.

3. Advances in Robotics Components and Manufacturing

Matthew Komitsky updated on the development of a micro-mouse robot, revealing design iterations and the complexities of optimizing motor control and PCB design.

Discussion revolved around the cost and fabrication challenges, particularly tariff impacts, with insights from his experience ordering parts and assembling his project.

Tom Crawford introduced cost-effective time-of-flight sensors as potential assets for projects demanding precise distance measuring capabilities.

Conclusions and Insights

Continuous innovation and peer feedback are crucial in overcoming common robotics challenges, especially in design and component integration.

Cost considerations remain a significant challenge when sourcing materials for robotics projects, highlighting the need for strategic planning and resource management.

Experimental approaches, such as Casler's air-powered idea, underline the community's drive towards creative problem-solving, balancing innovation with safety and practicality.

Referenced Links

Provided by Participants

Mark R shared: Mini Sumo Rules PDF - Detailed guidelines for participants in mini-sumo robot competitions.