

Sumo Robotics

Objective: By doing this course, student will understand the basic building blocks of a sumo bots. With hands-on exercises, they will learn about DC motors, switches, wireless Communication, batteries and other components inside wireless controlled sumo bot. Robot-sumo is a sport in which two robots attempt to push each other out of a circle. The robots used in this competition are called SumoBots Robot Sumo game is popular in many countries, including Singapore (Singapore Robotic Games) and Japan.

Session: 1

- Introduction to Robotics
- What is Robot - In Depth Explanation
- Various Type of Robots
- Robots Applications in Different Domain
- Components used in Robotics
- Future Scope for Robotics

Session: 2

- Basic Electronics
- How does RF Communication work?
- Structural Design using metal or plastic sheet.
- Fix the motors to the clamps
- Chassis Assembly
- Interfacing of Sensors

Session: 3

- RF module Schematic
- Explaining various components on the RF module

Session: 4

- H-Bridge motor Driver/controller interfacing
- Directional control of the motor
- Working of a DC Motor

Session: 5

- Connection of Switch to RF Transmitter.
- Connection of motor driver to RF Receiver

Session: 6

- Actuation: Customizing Robots for applications.
- Motor Connections with motor driver IC.
- How to control a Wireless sumoBots

Session: 7

- Troubleshooting
- Testing Sumo Bots

Session: 8

- Query
- Competition
- Certificate Distribution