



# Rescue Robotics

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## Background & Goals

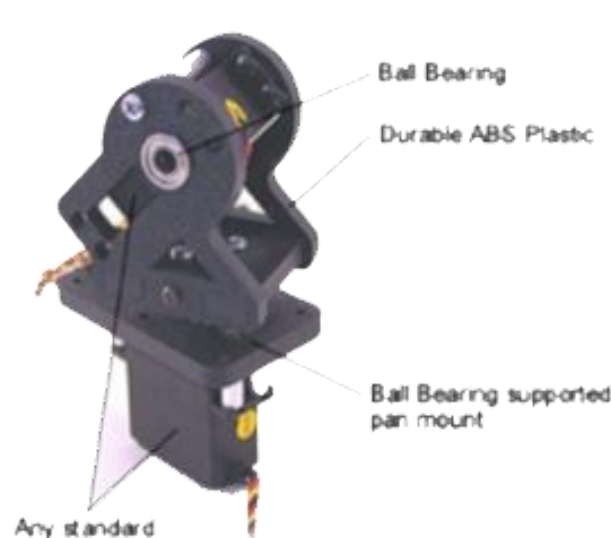
- 3<sup>rd</sup> year of UCI Rescue Robotics Competition
- **Competition Goal:** Expose high school students to STEM via robotics
- **MAE 189 Goal:** design, upgrade and refine the robots from previous years to incorporate swarming capability
- **Real World Implication:** Autonomous robot swarms to assist in search & rescue operations.

## Purpose

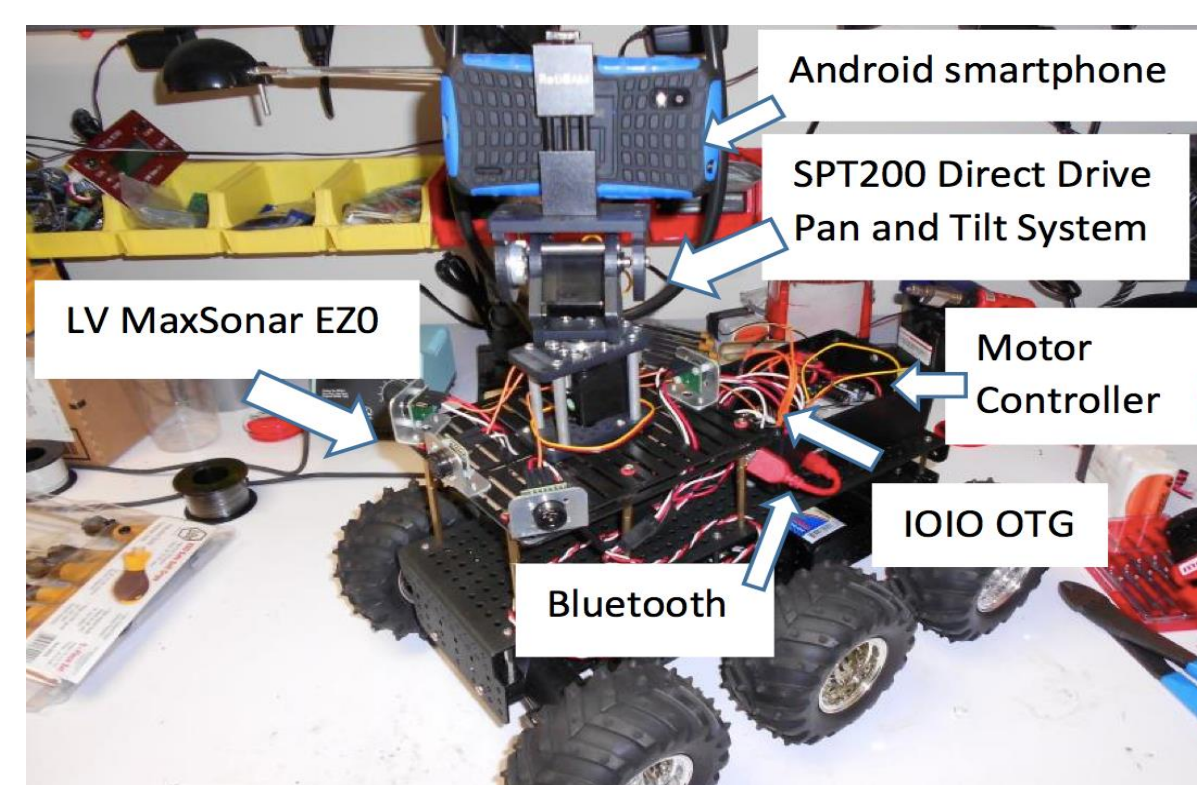
- The main purpose of this project is to help high school students develop interest and technical ability in STEM (Science, Technology, Engineering, Mathematics) education.



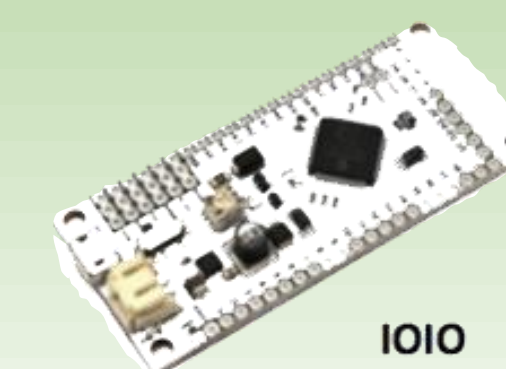
Motor Controller



Pan and Tilt System



Your Android™  
Smartphone  
Here



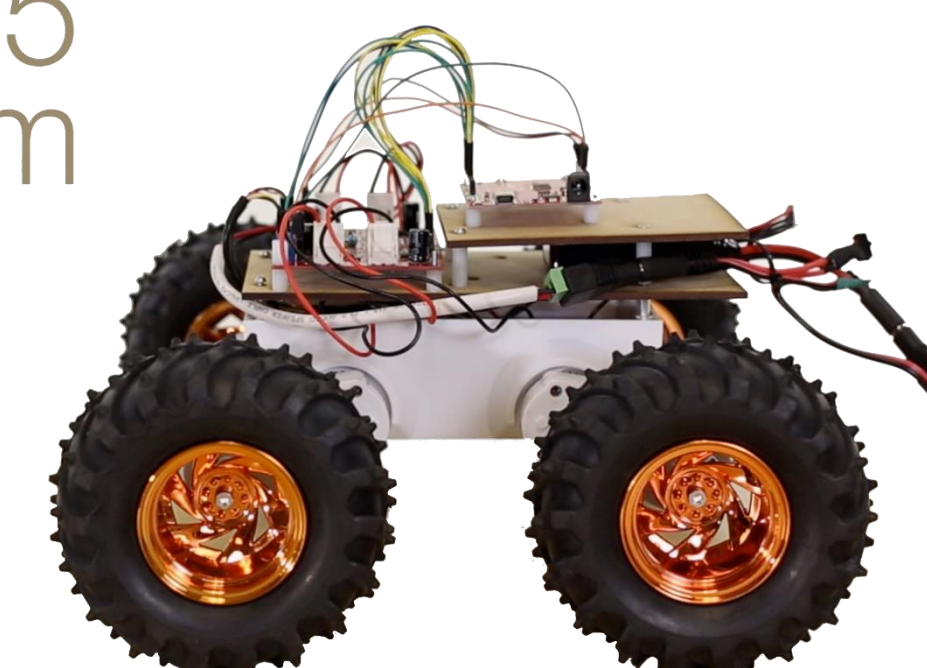
IOIO



Sonar



Rover 5  
Platform



## Design & Innovation

- Modify design of existing six-wheeled robot
- Design a smaller robot based on the Rover 5 chassis
- Build and test 3 Android Based Rover 5 robots
- Modify existing program to develop a robotic swarm (3-6 robots)

## Robot Specifications

- Inexpensive (\$200 - \$1k)
- Traverse any terrain
- Can be rapidly deployed
- Capable of carrying an array of sensors
- Runs on Android OS
- Easily constructed and used by novices

## Budget

- MAE 189 Funds: project designed to have a low cost of entry

