TEAM 8 EE IEEE ROBOTICS COMPETITION

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OVERVIEW

- Competing in the 2023 IEEE Region 5 Robotics Competition
- Will be working with RIOT RSO on the overall project
- Working on drone, sensors, and on-board CPU for the robot (all software aspects)

DRONE

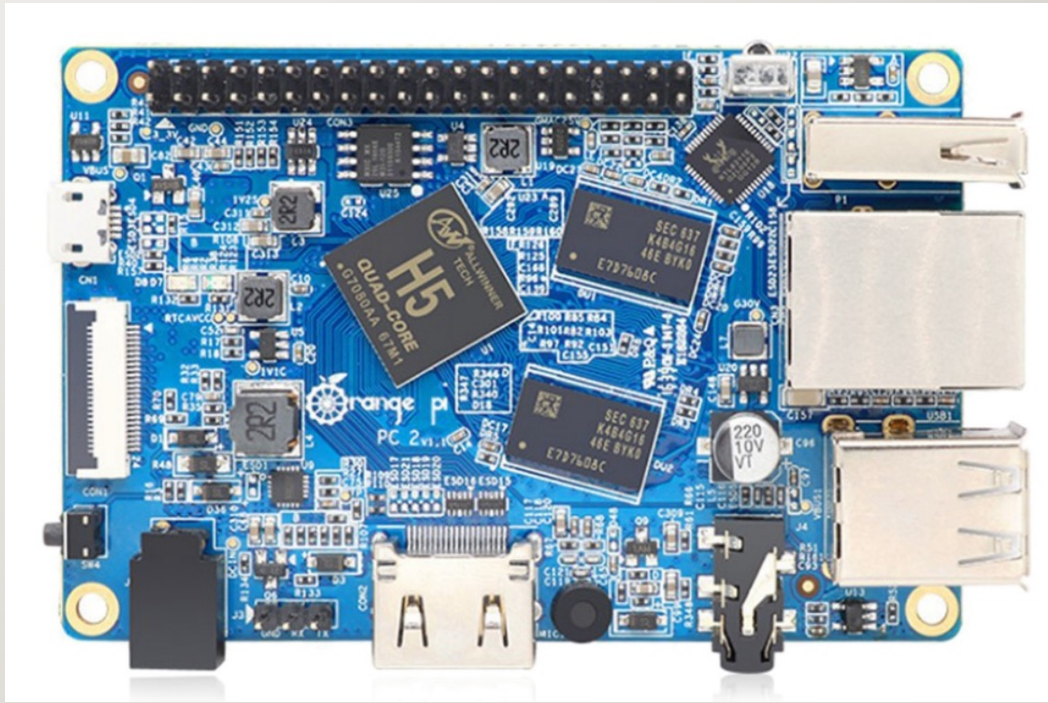
- Will be using the RYZE DJI Tello drone
- Will be communicating with the ground robot throughout the competition
- Program to land and take off from ground bot
- Scan and map terrain of course

SENSORS

- Camera will be used to gather data on the terrain
- Sonar/Ultra-sonic sensor will be used to detect location
- Odometer will determine distance covered
- LIDAR determines distance between objects
- IMU will measure movement/physics of robot

ON-BOARD COMPUTER

- Will be programming the data processing, as well as functionality of ground robot through GPIO's
- Have decided on a few options to use: Arty Development Board and Orange/Raspberry Pi's
- Will use the CPU to control the robot and communicate with the drone



EXPECTED OUTCOMES

- Work the RIOT RSO to have a functioning drone and ground robot
- Work on the software systems of both the drone and ground robot
- Have the drone and ground robot prepared to compete in the IEEE Robotics Competition in April 2023