Introduction

The autonomous boat (Boat) project is a collaborative effort between the Electrical and Computer Engineering, Mechanical Engineering, and Computer Science departments. The project is led by Professor Michael Kwan, with support from Charles Gerdes, Daron Bickel, and Richard Law. The team consists of undergraduate and graduate students from various disciplines.

The main objective of this project is to develop an autonomous navigation system for a small boat. The system will be capable of navigating through complex environments and avoiding obstacles. The boat will be equipped with a variety of sensors and actuators to ensure safe and efficient navigation.

The project is supported by grants from the National Science Foundation (NSF) and the National Oceanic and Atmospheric Administration (NOAA). The team is also collaborating with industry partners to commercialize the technology.

Details

- Power Source: LiPo battery
- Communication: Wi-Fi and LoRa
- Navigation: GPS and LIDAR
- Control System: Arduino
- Sensors: Ultrasonic, infrared, and motion sensors
- Actuators: Servos and motors

Components of the boat's autonomous system include:

- Motor controller
- Wi-Fi transceiver
- LIDAR
- Ultrasonic sensors
- LoRa radio module

The boat will be tested in various environments, including calm waters and rough seas. The team hopes to demonstrate the feasibility of the technology and explore potential applications in maritime navigation.