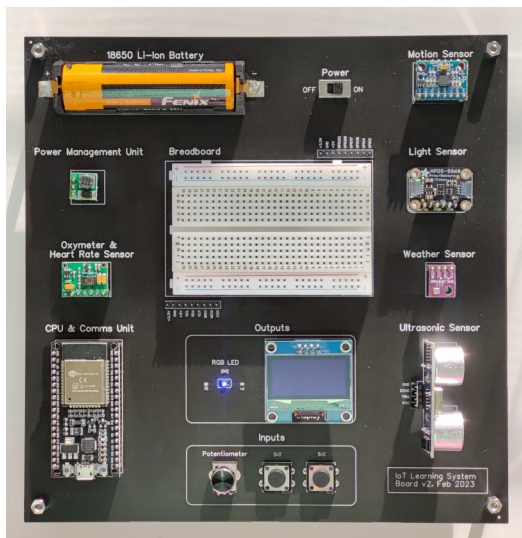
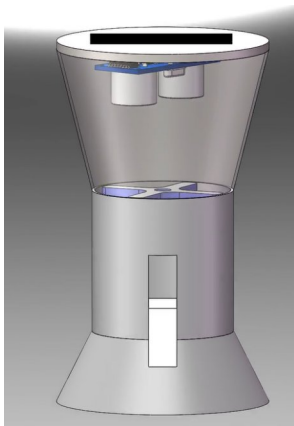


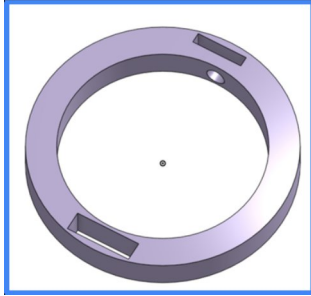
The AHA (stands for AI Hardware Adventure) platform, designed by the proposing team, provides a hands-on, game-based learning introduction to intelligent edge computing and the key principles of system operation for undergraduate students from any disciplines. Students perform a set-of well-designed experiments with the AHA hardware platforms (see Figure X) to understand the underlying hardware components and (e.g., processor, sensors, data storage) and AI/ML algorithms used for intelligent decision making. In particular, AHA platform enables undergraduate students to perform experiment with hardware sensors (e.g., temperature, motion, light) in IoT applications for monitoring and controlling devices in real-time, and (2) make predictions using data from sensor hardware modules using simple AI/ML algorithms. The students also pursue a design project where they use the AHA platform to build a smart edge computing device for an application of their choice. This project challenges them to explore important community problems that can be solved using the power of intelligent edge devices.



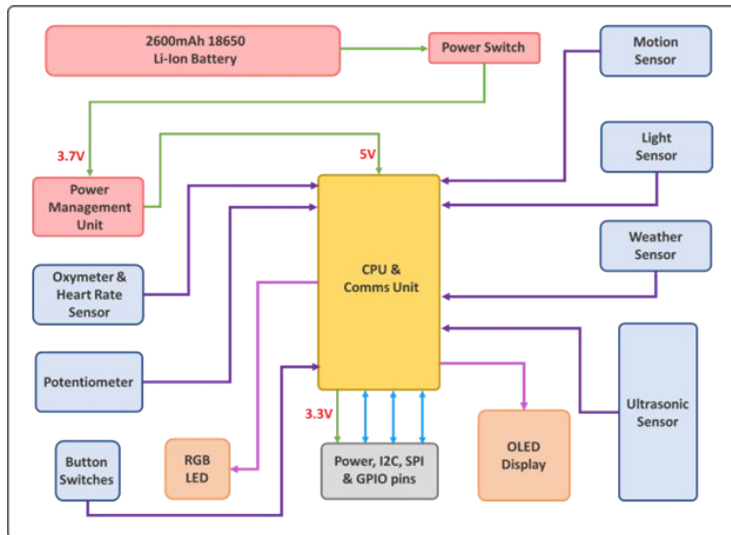
AHA board: an easy-to-use configurable IoT platform for hands-on experiments on sensing and intelligent decision-making using AI.



Student project example 1: Automated pet Feeder using ultrasonic sensors and AI



Student project example 2: Smart ring with embedded motion sensor sensors and AI for fall detection in elderly people.



Block diagram for the AHA board showing all major components and interconnection among them.



UF undergraduate students working on the AHA board for doing IoT and AI experiments.