Course Project: Building a Complete IoT Solution

- **Objective:**
- Design, develop, and deploy a fully functioning IoT system that combines sensors, edge processing, cloud integration, and machine learning for real-time decision making.

- **Steps:**

1. **Conceptualization**: Define the IoT solution (e.g., smart agriculture, predictive maintenance).
2. **Hardware**: Select and set up sensors (e.g., temperature, humidity, motion).
3. **Edge Computing**: Implement local data processing on an edge device (ESP32, Raspberry Pi).
4. **Cloud Integration**: Send data to a cloud platform (AWS IoT, Google Cloud IoT).
5. **Data Visualization**: Build a custom dashboard for real-time monitoring.
6. **Machine Learning**: Deploy a predictive model for decision making (e.g., predicting failures or crop yields).

- **Tools:**
- **AWS IoT, Google Cloud IoT, Microsoft Azure IoT.**
- **TensorFlow Lite