Projects

**Predictive Maintenance:**

* **Problem:** Aging infrastructure (bridges, power grids) leading to unexpected failures and costly repairs.
* **Solution:** Deploy sensors on critical components to monitor vibration, temperature, and strain. Use AI/ML on a microcontroller to analyze data, predict failures, and schedule proactive maintenance.

**Livestock Monitoring:**

* **Problem:** Difficulty in monitoring animal health, detecting diseases, and optimizing feeding schedules.
* **Solution:** Deploy sensors to monitor animal movement, body temperature, and heart rate. Use AI/ML on a microcontroller to analyze data, detect early signs of illness, and optimize feeding and medication schedules.

**Quality Control:**

* **Problem:** Manual inspection of products can be time-consuming, error-prone, and costly.
* **Solution:** Utilize sensors to monitor product dimensions, weight, and other quality parameters. Employ AI/ML on a microcontroller to analyze data, identify defects, and automate quality control processes.

**Predictive Maintenance:**

* **Problem:** Unexpected equipment failures in industrial settings can lead to costly downtime and production losses.
* **Solution:** Deploy sensors to monitor equipment vibration, temperature, and pressure. Utilize AI/ML on a microcontroller to analyze data, predict equipment failures, and schedule maintenance proactively.