Title: AI-Powered Predictive Maintenance for Healthcare Equipment

Category: Healthcare

Description: Healthcare facilities, especially in rural and underserved areas, often face challenges with medical equipment breakdowns due to lack of timely maintenance. These breakdowns disrupt critical patient care services and lead to increased operational costs.

The problem lies in the absence of real-time monitoring and predictive insights for healthcare equipment. Hospitals and clinics usually rely on scheduled maintenance or reactive measures after a failure occurs, which is inefficient and expensive. Examples include diagnostic machines like CT/MRI scanners, ventilators, or blood-testing devices that often require calibration and repair, leading to downtime.

The challenge is to develop an AI-powered solution that uses data from IoT sensors, historical maintenance records, and environmental factors (like temperature or humidity) to predict when and why medical equipment might fail. The solution should provide actionable insights to healthcare providers, enabling them to plan proactive maintenance and minimize equipment downtime.

Expected Outcome:

- An AI model capable of analysing IoT and maintenance data to predict failures and recommend preventive actions.
- A prototype dashboard or application that visualizes equipment health, urgency of maintenance, and cost implications.
- Improved uptime of medical equipment in healthcare facilities, especially in resource-constrained settings.