ABV IIITM STUDENT BRANCH

IEEE MP SECTION

HACKSAGON

A NATIONAL LEVEL SOFTWARE & HARDWARE HACKATHON

# Livestock Monitoring System

Team - Brahma

# SOFTWARE + HARDWARE

The system integrates *IoT sensors, AI-based Analytics, Cloud computing* to provide real-time monitoring of livestock health. Wearable sensors collect physiological data, which is processed through AI algorithms & displayed on a user-friendly mobile/web dashboard.

# PROBLEM STATEMENT

Farmers often detect diseases too late due to a lack of real-time health monitoring, leading to animal deaths and significant financial losses as treatment is delayed. Diseases such as Lumpy Skin Disease, Foot & Mouth Disease, Peste des Petits Ruminants cause high mortality rates & economic damage.

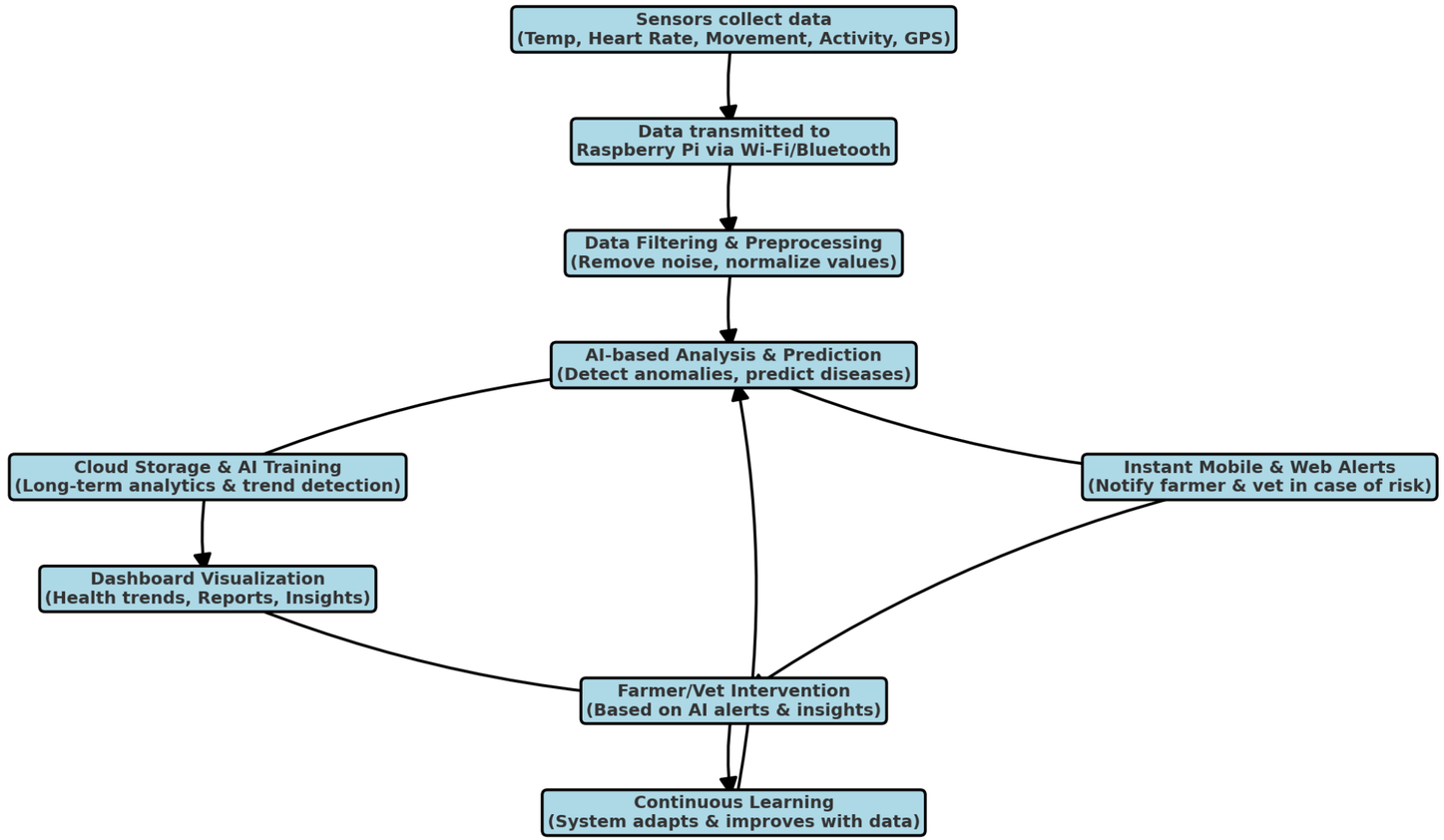
# PROPOSED SOLUTION

A real-time livestock health monitoring system using IoT, AI, smart sensors to enable early disease detection, reduce mortality, minimize economic losses.

- **Smart Wearables** track vital signs such as temperature & heart rate.
- **AI Algorithms** predict disease outbreaks using collected data.
- **Mobile Alerts** notify farmers & veterinarians for early intervention.
- **Cloud Integration** allows for data-driven disease surveillance & analytics.

# FLOWCHART

**Livestock Monitoring System Flowchart**



# FLOWCHART EXPLANED

- **Sensors collect** real-time livestock health data (temperature, heart rate, movement).
- **Data is transmitted** via Wi-Fi/Bluetooth to Raspberry Pi for processing.
- **AI-based analysis** detects anomalies & predicts potential diseases.
- **Cloud storage** for long-term monitoring & analytics.
- **Mobile & Web alerts** notify farmers & veterinarians for early intervention.
- **Dashboard visualization** for user-friendly data access & insights.

# FEATURES & NOVELTY

- **Real-Time Disease Detection** – Helps prevent outbreaks before they spread.
- **AI-Powered Health Insights** – Predicts illnesses early to reduce livestock mortality.
- **Smart Wearables & IoT Sensors** – Enables continuous monitoring for precise health tracking.
- **Instant Alerts & Veterinary Support** – Quick treatment response minimizes losses.
- **Data-Driven Disease Surveillance** – Integrates with government & research bodies.
- **Cost-Effective & Scalable** – Affordable for small farmers & large dairy industries.

# DRAWBACK

- **Initial Setup Cost** – Hardware and IoT device costs may be a barrier for small-scale farmers.
- **Connectivity Issues** – Requires stable internet connectivity for real-time data transfer.
- **Data Privacy Concerns** – Secure storage and management of livestock health data are crucial.
- **User Adoption** – Training farmers to use digital solutions effectively.

# TEAM BRAHMA MEMBERS

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# THANK YOU