

Start: Collect Data from Sensors

Data Preprocessing
- Cleaning
- Normalization
- Feature Engineering

Exploratory Data Analysis
& Visualization

Model Training
- ML/DL Models (Random Forest, LSTM)
- Anomaly Detection Algorithms

Model Evaluation
- Accuracy, Precision, Recall, F1
- ROC-AUC

Deploy System in Production
- API Integration
- Edge/Cloud Deployment

Continuous Monitoring
& Feedback Loop

Trigger Alerts on Anomaly Detection

End