Bansilal Ramnath Agarwal Charitable Trust's
VISHWAKARMA INSTITUTE OF TECHNOLOGY, PUNE
(An Autonomous Institute affiliated to Savitribai Phule Pune University)
Department of Electronics and Telecommunication Engineering

Battery Monitoring System for Ensuring Safety

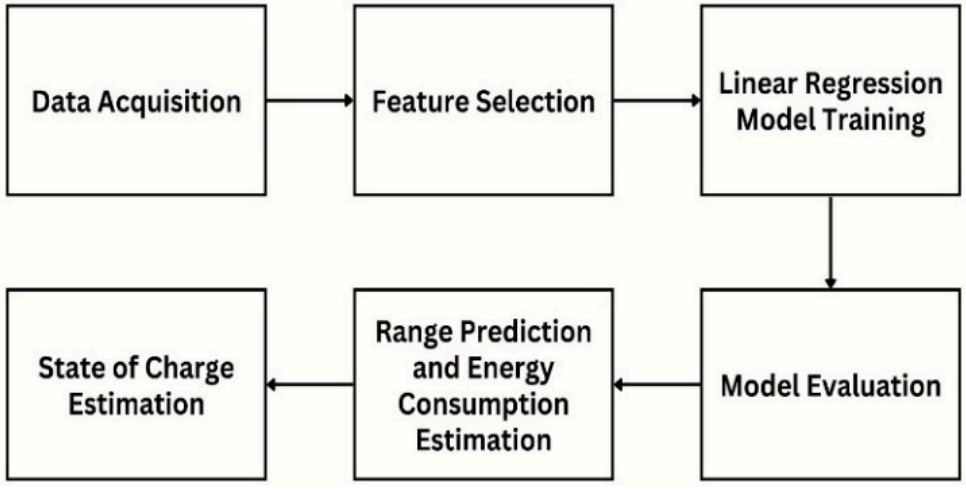
Description

This system helps in determining the EV State of Charge and making decisions related to charging and discharging. It aims to enhance understanding and decision-making in real-life EV usage scenarios.

Specifications

1. Combination of Linear regression and multivariate analysis technique
2. Make charging/discharging decisions based on predicted range and current state of charge (SoC) of the battery

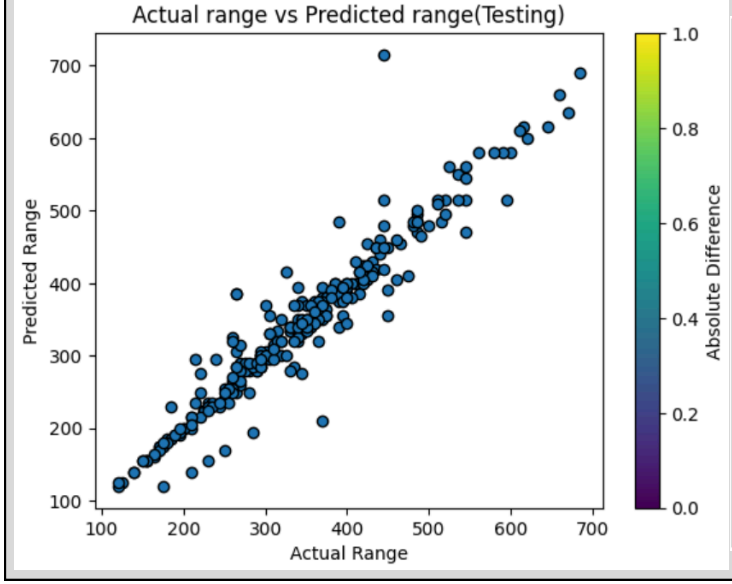
Block Diagram



Novelty

1. Precise prediction of the range of distance that can be travelled based on the SoC (State of Charge).
2. Higher R-squared (0.9835) and lower MAE (8.9550) and MSE (137.56) values

Results



Parameters	Proposed System
R^2 (Training Data)	0.9835
R^2 (Testing Data)	0.9807
Mean Absolute Error (MAE)	8.9550
Mean Squared Error (MSE)	137.56
Root Mean Squared Error (RMSE)	11.7286

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