



# SRI KRISHNA COLLEGE OF TECHNOLOGY

An Autonomous Institution

Affiliated to Anna University and Approved by AICTE

Accredited by NAAC with 'A' Grade

KOVAIPUDUR CAMPUS, COIMBATORE –641042.



Year:IV

Semester:VII

Class:B.E- CSE(AIML)

Date:15.07.2025

## PROJECT TITLE:

SWARAJYA: A Predictive Platform for Sustainable EV Battery Logistics and Retail-Based Charging Infrastructure.

## NAME OF THE STUDENTS:

S.No	Name	RegisterNumber
1	SHYLENDRA PRABU R	727822TUAM053
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## I. REFERENCE PAPERS:

S.No	Technology Used	Title of the Paper	Journal/ Conference	Year
1	Double-level planning model, battery logistics optimization, time-space load forecasting	Sizing and Locating Planning of EV Centralized Battery-Charging-Station Considering Battery Logistics System.	Publisher: IEEE	2022
2	Deep Neural Networks (DNN), time-series forecasting for EV charging load	A Deep Learning Approach for Electric Vehicle Load Forecasting.	Publisher: Elsevier	2021
3	Planning of Electric Vehicle Charging Stations Considering Fuzzy Selection of Second Level Charging Station	Fuzzy Decision-Making System (Fuzzy AHP).	Publisher: IEEE	2022

## II. HARDWARE REQUIREMENTS:

Personal Computer/Laptop, Processor (CPU), RAM 32 GB, Storage, GPU, OS.

### III. SOFTWARE REQUIREMENTS:

- Programming Language: Python
- ML Libraries: TensorFlow / Keras, Scikit-learn, XGBoost
- Backend Framework: FastAPI or Node.js
- Frontend Development: React.js (web)
- Database: PostgreSQL / Firebase
- APIs: Google Maps API, OpenWeather API, Location Services
- Cloud Platform: AWS / Heroku for hosting and deployment
- Version Control & CI/CD: GitHub / GitLab.

### IV. BUDGET PROPOSAL:

- Estimated Cost: Rs.25,000/-

### V. COMPARISON TABLE (if applicable):

Feature	Existing System	Smart EVLink (Proposed System)
Charging Infrastructure	Fixed-location charging stations	Dynamic, host-integrated system (MSMEs, hotels, etc..)
Demand Forecasting	Static/manual	Real-time ML-based prediction (LSTM/XGBoost)
Stakeholder Model	Provider-centric	Inclusive: User ↔ Host ↔ Provider coordination
Accessibility	Urban-focused	Scalable to semi-urban and Tier 2/3 regions
Cost & Setup	High infra cost	Low-cost, software-driven with no hardware dependency
Sustainability Alignment	Limited	Core integration with SDGs & IKS principles