

5. Conclusion:

In this work we tried to propose an EV charging station framework which will satisfy both the QoS of customers and charging station stability. The main assumption of our work is that user will not choose the stations which has more price per unit for charging in that time slot. If the assumption follows the stations with congestion will not face new arrivals and the load will be distributed. But dynamic pricing arises questions like how do EV drivers respond to dynamic prices in reality? Furthermore, it is not clear if a dynamic pricing scheme would be accepted by the users at all.

6. Future Works:

1. OCPP (Open Charge Point Protocol) 2.0.1 Implementation.
2. Android application design for user.
3. Traffic Modeling Simulation of a city.
4. Add Realtime Charging station using Open Charge Alliance and their dataset.
5. Personal Domain and Hosting in Cloud.

7. References:

1. Daehyun Ban*, George Michailidis, and Michael Devetsikiotis, Demand Response Control for PHEV Charging Stations by Dynamic Price Adjustments.
2. Electric vehicle market in India expected to hit 63 lakh units per annum mark by 2027: IESA .PTI. December 22, 2020.
3. How Electric Vehicles Will Impact Electricity Demand, India's Grid Capacity. 02 Apr'20 .Amit Raja Naik.
4. Dynamic Pricing for Electric Vehicle Charging—A Literature Review Steffen Limmer. DOI:10.3390/en12183574.
5. Guo, Y.; Liu, X.; Yan, Y.; Zhang, N.; Su, W. Economic Analysis of Plug-in Electric Vehicle Parking Deck with Dynamic Pricing. In Proceedings of the 2014 IEEE.
6. Luo, C.; Huang, Y.F.; Gupta, V. Dynamic Pricing and Energy Management Strategy for EV Charging Stations under Uncertainties. In Proceedings of the International Conference on Vehicle Technology and Intelligent Transport Systems, VEHITS 2016, Rome, Italy, 23–24 April 2016; Volume 1, pp. 49–59, [CrossRef].
7. Luo, C.; Huang, Y.F.; Gupta, V. Stochastic Dynamic Pricing for EV Charging Stations with Renewable Integration and Energy Storage. IEEE Trans. Smart Grid 2018, 9, 1494–1505, [CrossRef]
8. Vehicle Count Prediction from Sensor Data. 12 Oct, 2021. Sravankumar.
9. Yanli Liu, Yourong Wang & Jian Zhang. New Machine Learning Algorithm: Random Forest.
10. Ground Reality: The Math Behind India's Electric Vehicle Charging Infrastructure. 25 Feb'20 | By Amit Raja Naik.