**ABSTRACT**

Although electric vehicles (EVs) have many benefits for protecting the environment and lowering emissions, their widespread adoption mainly depends on their price. With machine learning (ML) algorithms, costs can be predicted. This research aims to compare the performance of some of the most well-known ML algorithms to determine which algorithm will best predict the price of electric vehicles. To identify the key characteristics, we examined the literature to research the elements that determine the price of electric vehicles in order to estimate their cost. We theoretically compared these ML algorithms to validate our findings and then compared the output of this comparative study to the outcomes of the simulations.

Keywords: Machine learning, Electric Vehicles (EVs), EVs costs, supervised machine learning algorithm.

**EXISTING SYSTEM:**

The existing system focuses on the crucial role of price in determining the widespread adoption of electric vehicles (EVs) despite their environmental benefits. Utilizing machine learning (ML) algorithms, the research aims to predict EV costs by comparing the performance of prominent ML algorithms. To achieve this, the study conducts a comprehensive literature review to identify key factors influencing EV prices. Theoretical comparisons of these ML algorithms validate the findings, followed by a comparison of their outputs with simulation outcomes. This approach integrates empirical research with theoretical analysis to enhance understanding and prediction accuracy in estimating EV costs, thereby contributing to fostering their wider adoption.

**DISADVANTAGES OF EXISTING SYSTEM:**

* Limited Scope: The research focuses solely on predicting electric vehicle (EV) prices using machine learning algorithms without considering broader factors influencing EV adoption, such as infrastructure, government policies, and consumer perceptions. This limited scope may overlook critical barriers to adoption beyond pricing.
* Data Limitations: Depending solely on machine learning algorithms for price prediction may overlook the complexity and variability of factors influencing EV prices. Insufficient or biased data could lead to inaccurate predictions and limited generalizability.
* Theoretical Validation: Theoretical comparisons of ML algorithms may not accurately reflect real-world performance. The absence of empirical validation or validation against real-world data could lead to inflated expectations or erroneous conclusions about algorithm efficacy.
* Simulation Outcomes: Relying on simulation outcomes for comparison may introduce biases or inaccuracies if the simulations do not accurately reflect real-world scenarios. The validity and reliability of simulation results may vary depending on the assumptions and methodologies used.
* Lack of Actionable Insights: While the research aims to predict EV prices, it may not provide actionable insights for stakeholders seeking to address barriers to EV adoption. Without understanding the underlying drivers of pricing dynamics, stakeholders may struggle to implement effective strategies to promote EV adoption.
* **Algorithm**: Decision Tree, Liner Regression.

**PROPOSED SYSTEM:**

In our proposed system, we aim to enhance the accuracy and applicability of predicting electric vehicle (EV) prices by incorporating a more comprehensive approach. Beyond solely relying on machine learning (ML) algorithms, we propose integrating additional data sources such as real-time market data, consumer preferences, and governmental policies to capture a broader range of factors influencing EV prices. By leveraging a diverse dataset, we seek to improve prediction accuracy and generalizability. Additionally, we plan to validate our findings not only through theoretical comparisons of ML algorithms but also through empirical validation against real-world data. This approach will provide actionable insights for stakeholders aiming to address barriers to EV adoption and promote sustainability goals effectively. By integrating transparency and interpretability into our ML models, we aim to build trust and ensure the reliability of our predictions for informed decision-making. Overall, our proposed system seeks to advance the understanding and prediction of EV prices, contributing to fostering their wider adoption and realizing environmental benefits.

ADVANTAGES OF PROPOSED SYSTEM:

* Comprehensive Data Integration: By incorporating diverse data sources such as real-time market data, consumer preferences, and governmental policies, the proposed system captures a broader range of factors influencing electric vehicle (EV) prices. This comprehensive approach enhances prediction accuracy by considering various dynamic factors affecting the market.
* Improved Prediction Accuracy: Leveraging a diverse dataset and integrating additional data sources enhances the accuracy and reliability of EV price predictions. By considering a wider range of factors, the proposed system can better capture the complexities of the EV market and provide more precise predictions.
* Enhanced Generalizability: The proposed system's reliance on real-world data and empirical validation improves the generalizability of the predictions. By validating findings against real-world outcomes, the system can better adapt to different market conditions and geographic regions, making it more applicable in diverse settings.
* **Algorithm:** Random Forest Regression ,Neural Networks.