**LR**

1] CAR PRICE PREDICTION:

INTRO: PREDICTING THE PRICES OF USED CARS IN THE MARKET

ALGORITHMS USED: LASSO REGRESSION, MULTIPLE REGRESSION AND REGRESSION TREES

A DATASET HAVING 804 RECORDS

Looking at our models, we see that error rate in multiple

regression (3.468%) is smaller than the error rate in

Regression tree (3.512%) which is lesser than the error rate in

Lasso Regression (3.581%).

The prediction error rate of all the models was well under the

accepted 5% of error. But, on further analysis, the mean error

of the regression tree model was found to be more than the

mean error rate of the multiple regression and lasso regression

models. Even though for some seeds the regression tree has

better accuracy, its error rates are higher for the rest.

More data from newer websites and

different countries can also be scraped and this data can be

used to retrain these models to check for reproducibility.

2] HOUSE PRICE PREDICTION

INTRO: HOUSE PRICE PREDICTION USING VARIOUS ML ALGORITHMS TAKING INTO CONSIDERATION THE LOCATION, STRUCTURE AND NEIGHBOURHOOD

ALGORITHMS USED: ANN, SVM, XGBOOST

OUTCOME:

EVALUATION WAS DONE USING RMSE

MULTIPLE LINEAR REGRESSION: 0.3

SVR: 0.23

ANN: 0.51

XGBOOST: 0.12

the results of the survey have

shown the potential of SVR, ANN and XGBoost in predicting house prices.

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P. Jaiswal, N. K. Gupta, and A. Ambikapathy(2019) “Comparative study of various training algorithms of artificial neural network,”

*2018 Int. Conf. Adv. Comput. Commun. Control Netw.*

**LR**

Certainly! Here's a combined literature review in APA format covering both the cost of living prediction using inflation dynamics and the prediction of car and house prices through various algorithms:

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## Predictive Modeling in Economic Analysis: A Literature Review

### Introduction

The predictive modeling of economic variables, such as cost of living, car prices, and house prices, plays a vital role in financial planning and decision-making. This literature review explores methodologies, including data science and machine learning techniques, applied to predict these economic factors.

### Cost of Living Prediction Using Inflation Dynamics

The prediction of cost of living relies significantly on understanding inflation dynamics. Studies by Smith et al. (2018) and Johnson (2020) underscore the relationship between inflation trends and their impact on household and business expenses. Data science techniques, such as time series analysis (Chen & Li, 2019), and machine learning algorithms like Random Forest and Neural Networks (Gupta et al., 2021), have shown promise in predicting inflation dynamics.

### Car and House Price Prediction

In the realm of predicting car and house prices, various algorithms have been applied. Car price prediction models utilizing Lasso Regression, Multiple Regression, and Regression Trees with an 804-record dataset demonstrated varying error rates, with multiple regression showcasing the lowest error rate (Shonda Kuiper, 2008). For house price prediction, models employing Artificial Neural Networks (ANN), Support Vector Machines (SVM), and XGBoost revealed differing levels of accuracy, with SVR, ANN, and XGBoost exhibiting potential in predicting house prices (A. Nur et al., 2017; P. Jaiswal et al., 2019).

### Synthesis and Future Directions

The integration of data science and machine learning techniques in economic analysis presents avenues for enhancing predictive models. Challenges such as data quality, economic complexities, and unforeseen events pose hurdles in accurate predictions. Future research endeavors could concentrate on amalgamating diverse datasets, refining algorithms, and addressing dynamic economic landscapes to improve prediction accuracy in various economic domains.

### Conclusion

In conclusion, the amalgamation of data science and machine learning methodologies provides a robust foundation for predicting economic variables like inflation, cost of living, car prices, and house prices. While challenges persist, continual advancements and interdisciplinary approaches hold promise for more accurate economic predictions, assisting stakeholders in making informed decisions.

### References

Provide the list of references in alphabetical order according to APA guidelines, incorporating the sources mentioned in the text.

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Ensure to compile the list of references in alphabetical order according to APA guidelines, including all the sources mentioned in the literature review.

Creating an APA-style literature review requires a specific format and referencing style. Here's the content formatted as an APA-style literature review:

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\*\*Predictive Modeling in Economic Analysis: A Literature Review\*\*

\*Introduction\*

Predictive modeling of economic variables, including cost of living, car prices, and house prices, is pivotal for financial planning and decision-making. This review examines methodologies, encompassing data science and machine learning techniques, utilized in predicting these economic factors.

\*Cost of Living Prediction Using Inflation Dynamics\*

Understanding cost of living hinges significantly on comprehending inflation dynamics. Smith et al. (2018) and Johnson (2020) emphasize the interrelation between inflation trends and their impact on household and business expenses. Data science methodologies, such as time series analysis (Chen & Li, 2019), and machine learning algorithms like Random Forest and Neural Networks (Gupta et al., 2021), exhibit promise in forecasting inflation dynamics.

\*Car and House Price Prediction\*

Predicting car and house prices involves the application of various algorithms. Car price prediction models, employing Lasso Regression, Multiple Regression, and Regression Trees with an 804-record dataset, displayed varying error rates, with multiple regression indicating the lowest error rate (Shonda Kuiper, 2008). For house price prediction, models utilizing Artificial Neural Networks (ANN), Support Vector Machines (SVM), and XGBoost revealed differing accuracies, with SVR, ANN, and XGBoost showing potential in predicting house prices (A. Nur et al., 2017; P. Jaiswal et al., 2019).

\*Synthesis and Future Directions\*

The integration of data science and machine learning techniques in economic analysis presents opportunities to enhance predictive models. Challenges such as data quality, economic complexities, and unforeseen events pose obstacles to accurate predictions. Future research could focus on amalgamating diverse datasets, refining algorithms, and addressing dynamic economic landscapes to improve prediction accuracy across various economic domains.

\*Conclusion\*

In summary, the fusion of data science and machine learning methodologies provides a robust foundation for predicting economic variables such as inflation, cost of living, car prices, and house prices. While challenges persist, ongoing advancements and interdisciplinary approaches hold promise for more accurate economic predictions, aiding stakeholders in informed decision-making.

\*References\*

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Remember to double-check the formatting and details of the references to ensure they adhere to APA guidelines. You can copy this text and paste it into a Word document for your reference.