**Future Sales Prediction** with Machine Learning is a project aimed at leveraging data-driven techniques to forecast future sales based on advertising expenditures across different mediums. The project showcases the application of machine learning algorithms, specifically linear regression, to analyze the relationship between advertising spending and sales, providing valuable insights for businesses to optimize their marketing strategies and maximize revenue.

The project begins by loading and exploring a dataset containing information about sales and advertising investments in TV, radio, and newspaper mediums. It performs data visualization using Plotly Express to visualize the relationships between sales and each advertising medium, along with trendlines indicating the linear associations.

Correlation analysis is conducted to quantify the relationships between sales and advertising expenditures, highlighting the variables that have the highest impact on sales. This analysis provides valuable insights into the effectiveness of different advertising channels in driving sales.

A predictive model is then built using linear regression to forecast future sales based on advertising investments. The dataset is split into training and testing sets, and the model is trained on the training data and evaluated on the testing data to assess its performance. Finally, the trained model is used to predict future sales based on a set of features representing advertising investments in TV, radio, and newspaper.

Future Sales Prediction with Machine Learning demonstrates proficiency in data analysis, machine learning model development, and predictive analytics. It showcases the ability to leverage Python programming, data visualization techniques, and machine learning algorithms to derive actionable insights from data and make informed business decisions.