OPSFREE ASSIGNMENT

Name: Anand Raj

Email: anandrajstm100@gmail.com

Contact No.: 7979884518

Q. What algorithm, machine learning or AI approaches would you take to find anomalies in the duration of a span? And why do you think that approach is a good approach?

Ans: 1) **Time Series Analysis**:

Approach: Treat the duration of spans as a time series and apply techniques such as moving average, exponential smoothing, or ARIMA models to detect anomalies based on deviations from expected patterns over time.

Why It's Suitable: Time series analysis accounts for the temporal aspect of the data and can capture seasonality, trends, and other patterns that may indicate anomalies in duration values. It is suitable for detecting anomalies in duration data with time-dependent behavior.

2) Machine Learning Models:

Approach: Train supervised or unsupervised machine learning models, such as clustering algorithms (e.g., k-means, DBSCAN), density estimation models (e.g., Gaussian mixture models), or outlier detection algorithms (e.g., One-Class SVM), using duration values as features to identify anomalies.

Why It's Suitable: Machine learning models can capture complex relationships and patterns in the data and can adapt to different types of anomalies. They can also handle multidimensional data and may perform well in scenarios where anomalies are not easily characterized by simple statistical measures.