EEP 596 Quiz 5 – Week 6, Mar 1 (Wed.) Spring 2024

1. List four features that can be extracted from time series data for use in anomaly detection.

2. Describe how both supervised learning (classification and regression) and unsupervised learning (clustering) can be utilized for anomaly detection. Specify the type of data required for each method and discuss the metrics that can be used to identify anomalies in each approach.

3. Identify two scenarios where the k-means clustering algorithm may fail and suggest possible solutions for each scenario.

4. Compare and contrast the PCA (Principal Component Analysis) and t-SNE (t-Distributed Stochastic Neighbor Embedding) algorithms in terms of their approach to dimensionality reduction.

5. Explain the process of training an autoencoder and discuss how it can be employed for anomaly detection.