

# TTP: Medium Securing the Wireless Philadelphia Network

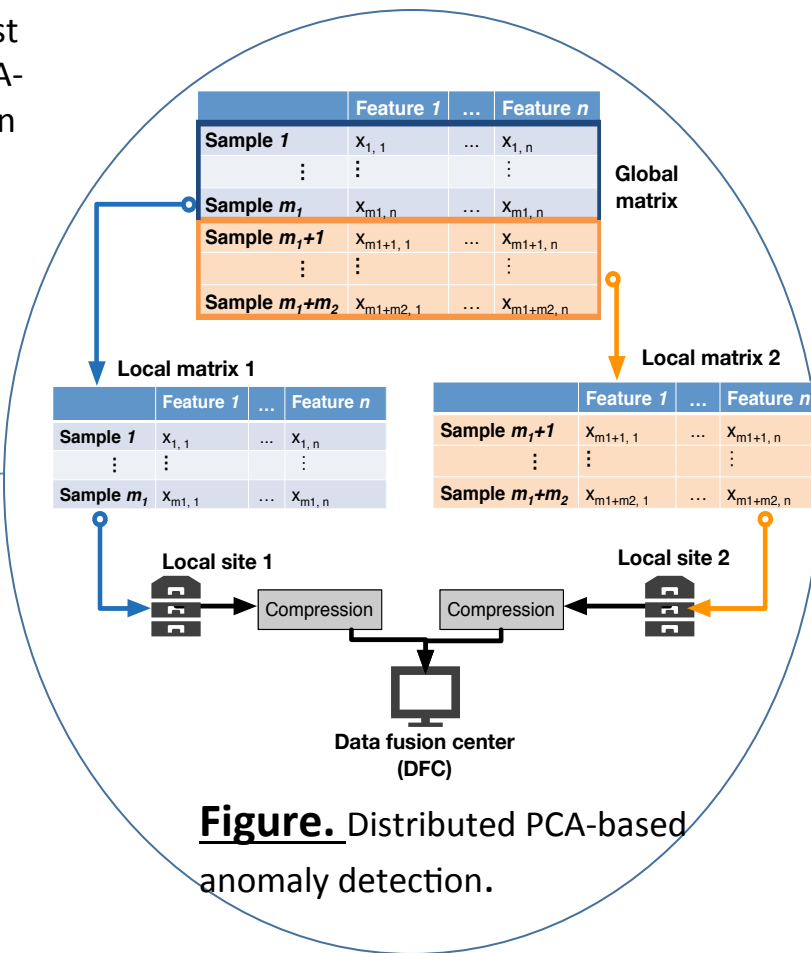


## Challenge:

- High communication cost incurred by applying PCA-based anomaly detection algorithm in distributed environment
- Reducing the amount of transmitted data may degrade the anomaly detection performance

## Solution:

- Applying distributed PCA algorithm in order to reduce communication cost and at the same time maintain a relative high detection accuracy



## Scientific Impact:

- Analyzed the tradeoff between comm. cost and the accuracy of distributed PCA, and the impact of the number of partitions on the comm. cost and accuracy
- Evaluates the performance of two distributed PCA algorithms on detecting anomalies in a real domain name system (DNS) query dataset from a large network.

## Broader Impact:

- Direct related to performing anomaly/intrusion detection in distributed environment in real life