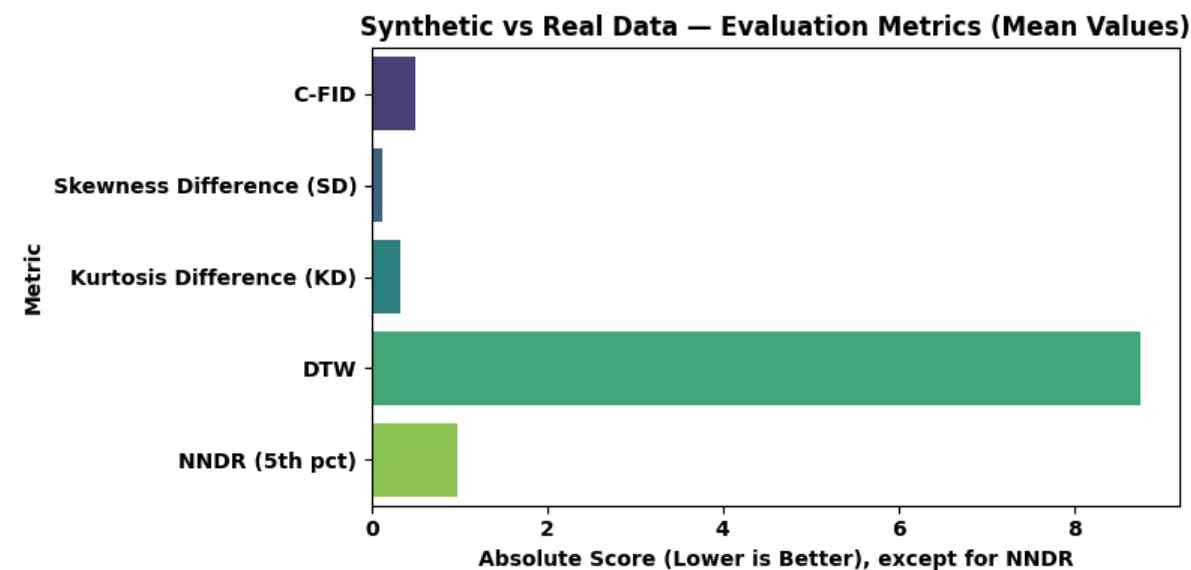# Synthetic Data Evaluation Report

Metric Definitions

- **C-FID**: Conditional Frechet Inception Distance - measures similarity of distributions.
- **Skewness Difference (SD)**: Measure of asymmetry between real and synthetic data.
- **Kurtosis Difference (KD)**: Measure of tail heaviness/ outliers between real and synthetic data.
- **DTW**: Dynamic Time Warping distance - compares data sequences in time series data.
- **NNDR (5th pct)**: Nearest Neighbor Distance Ratio (5th percentile) - highlight privacy risks if synthetic points too similar to real points.
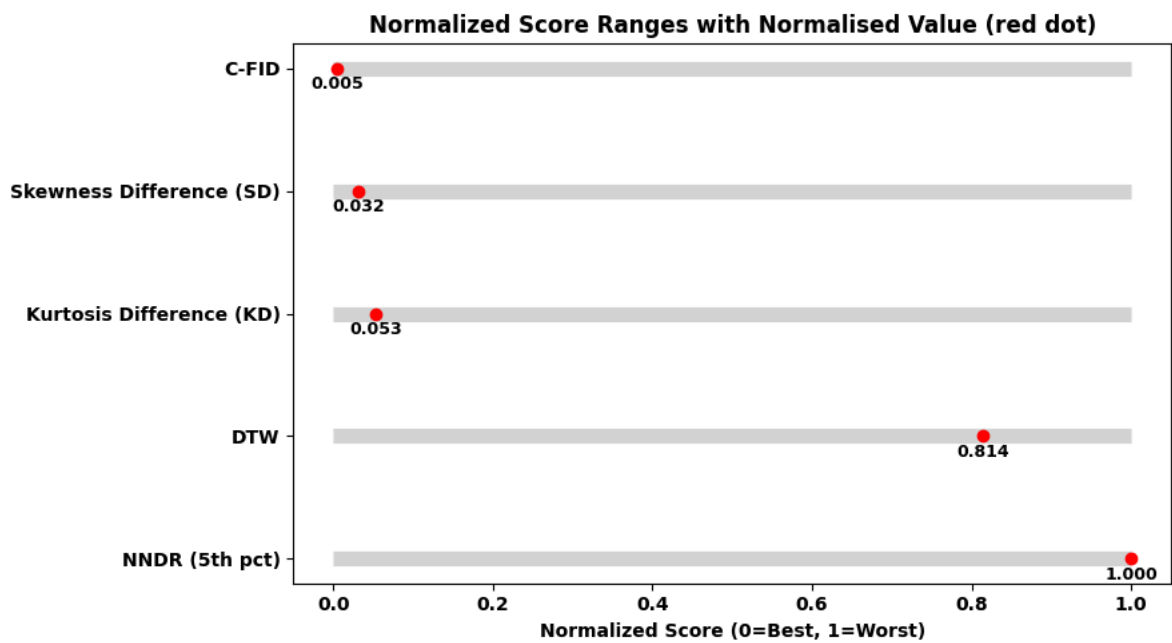
Score Summary

```
C-FID : 0.492 â€" Good

Skewness Difference (SD) : 0.113 â€" Good

Kurtosis Difference (KD) : 0.328 â€" Good

DTW : 8.766 â€" Needs Work

NNDR (5th pct) : 0.975 â€" Needs Work
```

Barplot of Scores

Normalised Score Range

Normalized Score Ranges with Normalised Value (red dot)

Radar Plot of Normalized Scores

Normalized Metrics (0 = Best, 1 = Worst)