1. **<u>Distance correlation is superior to Maximum mean discrepancy, Mutual information and adversarial de-biasing</u>**

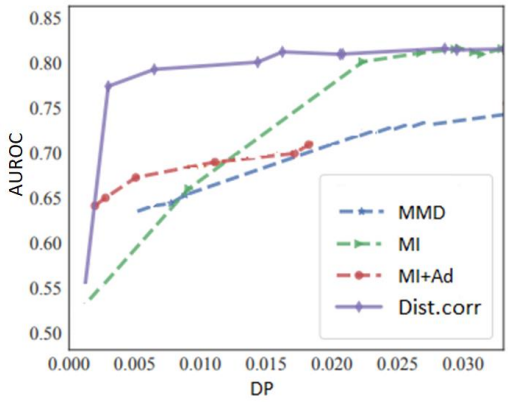

Figure 1 : Comparison of AUROC and DP for various measures

2. **Experiment on CelebA data (for grey-scale CelebA with n_channels=1 and the results are shown from 600th epoch due to time constraints)**

Case 1 – Fairness penalty computed for the whole 'gender' attribute.

Case 2 – Fairness penalty computed for only 'male' sensitive sub-groups

Case 3 – Fairness penalty computed for only 'female' sensitive sub-groups

Figure 2 : Fairness experiment on CelebA dataset

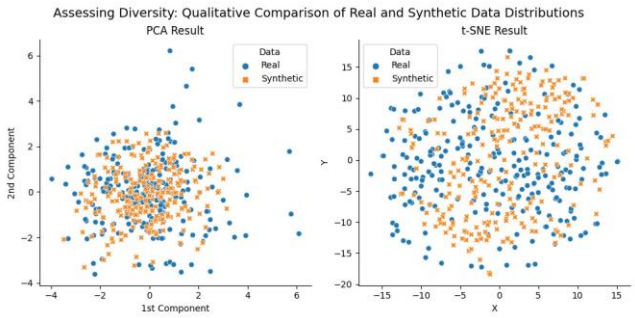

Figure 3: convergence of FLD-WGAN-GP on CelebA dataset

Remarks – It is interesting note that when we enforced fairness for female sub-groups (that is fairness penalty added for male, case 2 in above figure), all the male images are transformed to females and vice versa (case 3).