# Differential Privacy under Dependent Tuples

Paper link :

<https://www.princeton.edu/~pmittal/publications/ddp-ndss16.pdf>

Paper Objective :

To exploit the assumptions of differential privacy of data being independent and frame a good mechanism to successfully apply differential privacy in case of dependent data.

Flow of Work :

* Getting all the users from the city New York, San Francisco, Los Angeles , using data preprocessing.
* Getting average locations for each user
* Using k means.
* Applying laplace mechanism
* Plotting the user on folium map and also making connections between users.
* Doing Attack 1 and Attack 2 using dependent knowledge of data and get a clear difference in result and framing the dependent differential privacy.
* Generating synthetic data and then using it.

Dataset used :

<https://snap.stanford.edu/data/loc-gowalla.html>