

1. DENSITY PEAKS

- a) Program from scratch the density peaks algorithm
- b) Download the data set Aggregation from <http://cs.uef.fi/sipu/datasets/>
- c) Apply the algorithm with $d_c=2.5$
- d) Apply the algorithm to the S3 data set with $d_c=57500$.

2. VALIDATION

- a) Apply k-means to the Aggregation data set.
- b) Compare the F-ratio variance test of density peaks and k-means for the Aggregation Data set and for S3 data set.
- c) Compare the Normalized mutual information scores for the two algorithms (k-means and density peaks) and the two data sets (Aggregation and S3).