

SOTON-WAIS @ SED2013

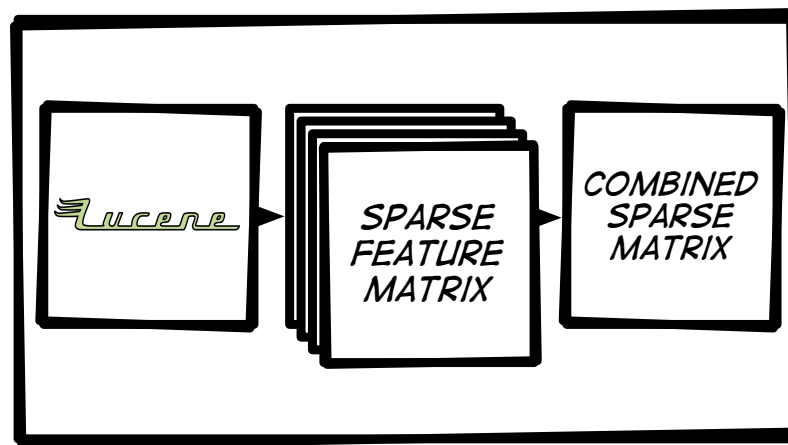
SPARSE FEATURES AND INCREMENTAL
DENSITY BASED CLUSTERING

SINA SAMANGOOEI



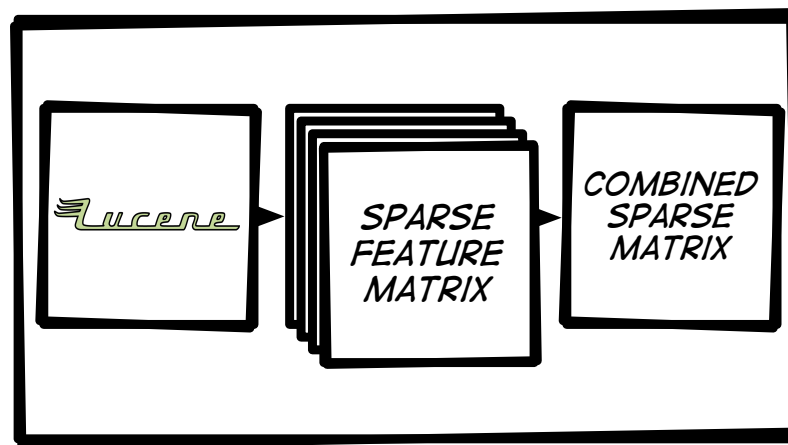


BUILD SPARSE MATRIX

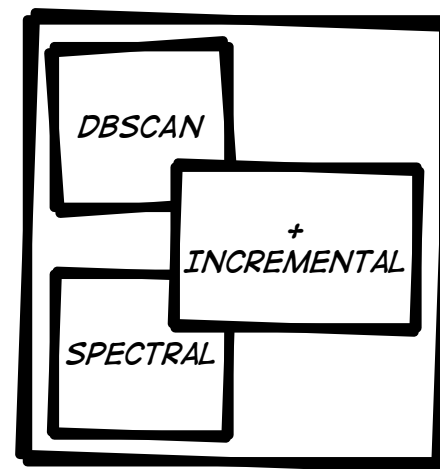


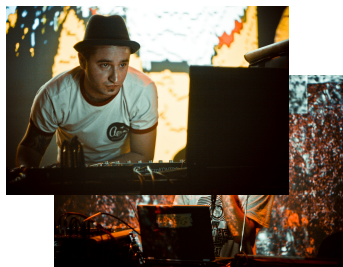


BUILD SPARSE MATRIX

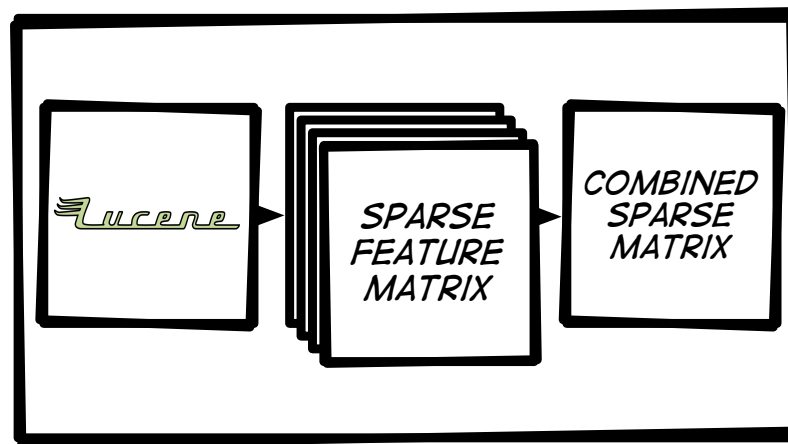


CLUSTER

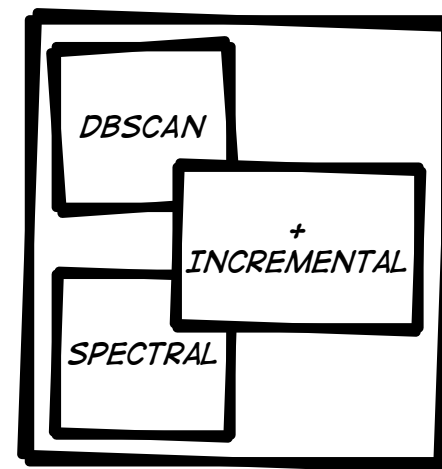




BUILD SPARSE MATRIX



CLUSTER



MAIN ACHIEVEMENTS

- CREATE **BIG** SPARSE SIMILARITY MATRICES
 - (QUICKLY)
- **OPEN SOURCE**
 - CLUSTERING, EXPERIMENTS... **THE LOT**
 - ...**OPENIMAJ**... WOO!
- **INCREMENTAL CLUSTERING**
 - SPECTRAL CLUSTERING WITH 300K ITEMS, 0.01 DENSITY.
 - HARD TO DO NAIVELY, TRY IN MATLAB OR PYTHON:

```
eigsh(srand(300000,300000,0.001),1000)
```

ASSUMING YOU HAVE **128GB RAM** IT'LL BE DONE SOON(ISH)