

**Download:** Please download ALL files including data files, code files, change\_s files and test files.

**Decompression:** After decompression, there are:

- (i) Six data files: SourceFile0.txt (TAO), SourceFile1.txt (Trip), SourceFile2.txt (Stock), SourceFile3.txt (HPC), SourceFile4.txt (GAS), and SourceFile5.txt (Normal), corresponding to six datasets used in our experimental study.
- (ii) Six c++ projects: each c++ project corresponds to an algorithm in the experiment.
- (iii) Test files (data file) and change\_s files (stream speed file).

**Build:** c++ projects can be compiled by VS 2019.

**Run:** exe file, data file, change\_s file and test file should be contained in the same file directory. The test file name is “test.txt”. Note, one test.txt corresponds to one SourceFile.txt.

**Data format** (3-dimension data in the example, space-delimited): 0.04 84.87 23.436

**Experiment to test KNode:**

Test format (7 parameters, space-delimited): 3 1.9 50 32 0.05 10000 500

1<sup>st</sup> parameter refers to dimension, e.g.,  $d=3$  in above example

2<sup>nd</sup> parameter refers to query radius  $r$ , e.g.,  $r=1.9$  in above example

3<sup>rd</sup> parameter refers to neighbor count threshold  $k$ , e.g.,  $k=50$  in above example

4<sup>th</sup> parameter refers to the index split threshold

5<sup>th</sup> parameter refers to  $\rho$ , e.g.,  $\rho=0.05$  in above example

6<sup>th</sup> parameter refers to the window size, which is measured by the number of objects in each query window

7<sup>th</sup> parameter refers to the speed of the stream, represented by the number of objects entering/exiting the window per slide

**Experiment to test CPOD/MMCOD/NETS/LEAP/PTAOD:**

Test format (6 parameters, space-delimited): 3 1.9 50 10000 500 1

1<sup>st</sup> parameter refers to the dimension, e.g.,  $d=3$  in above example

2<sup>nd</sup> parameter refers to the query radius  $r$ , e.g.,  $r=1.9$  in above example

3<sup>rd</sup> parameter refers to the neighbor count threshold  $k$ , e.g.,  $k=50$  in above example

4<sup>th</sup> parameter refers to the window size, which is measured by the number of objects in each query window.

5<sup>th</sup> parameter refers to the speed of the stream, represented by the number of objects entering/expired from the window per slide

6<sup>th</sup> parameter refers to code flags, which could be ignored.

Note that when evaluating the impact of stream speed, files “change\_s.txt” and “test.txt” should be contained in the same file directory.