

Important hyper parameters from the article:

**--learned\_laplacian**

Use the learned Laplacian kernel as described in 3.2.3

**--learned\_shapes**

Use the learned Shapes kernel as described in 3.2.3

**--laplacian**

The L hyperparameter from the loss function in 3.2.3

**--shapes**

The S hyperparameter from the loss function in 3.2.3

**--alpha**

The bandwidth parameter for the GCN kernel

**--laplacian\_alpha**

The bandwidth parameter for the Laplacian kernel

**--shapes\_alpha**

The bandwidth parameter for the Shapes kernel

**--num\_learned\_kernel**

Number of Learned GCN kernels

**--num\_replacing\_kernel**

Number of replacing GCN kernels

**--num\_constant\_kernel**

Number of constant GCN kernels

**--change\_alpha**

Find the best bandwidth parameter for the GCN kernel every x iteration as described in 3.1.4.2

**--learned\_alpha**

Learn the bandwidth parameter for the GCN kernel as described in 3.1.4.3

**--alpha\_range --alpha\_mul**

Use multiple bandwidth parameters for the GCN kernel as described in 3.1.3.4

For example, if alpha\_range=2, alpha\_mul=3 then we'll use:

Alphas=[ $\frac{\alpha}{3^2}$ ,  $\frac{\alpha}{3}$ ,  $\alpha$ ,  $\alpha * 3$ ,  $\alpha * 3^2$ ]

The size of alphas is 1+range\*2