**Figure 1:**

This is a cartoon overview of our approach which is not generated from code.

**Figure 2:**

This is a cartoon overview of our approach which is not generated from code.

**Figure 3:**

Fig3 (a) Run the script “.\Sumulations\toy\_example.m”

Ground truth graph is stored in the variable “*G\_sparse*”

Observed Graph is stored in the variable “*D*”

CF results is stored in the variable “*G\_r\_c*”

PHOCOS results is stored in the variable “*G\_r*”

If you want to visualize the graph drawing results, please install the "graphViz4Matlab" function into your local machine via:

http://www.mathworks.com/matlabcentral/fileexchange/21652-graphviz4matlab

Then, you can set drawflag to true for visualization purpose.

We default set the drawflag to false that allows you running our codes without graph plotting function.

The default condition will only return the link matrix and its corresponding nodes names.

We note that the following code for generating Fig 3b-e may take some time depends on the processing speed of the computer used. Additionally these figures may look slightly different from those in the paper as the results rely on randomly generated graphs. However, the major trends are consistent in multiple runs.

Fig3 (b~c) Run the script “.\Sumulations\ErrorMissingPlot.m”

Fig3 (d) Run the script “.\Sumulations\test\_parameter.m”

Fig3 (e) Run the script “.\Sumulations\SparseVerification.m”

**Figure 4:**

Fig4 (b~d) Run the script “.\Feature Selection\main\_func.m”

Fig4 (e) Read the variable *Representative\_Feature\_Name*

**Figure 5:**

Run the script “.\Graph Inference\main\_func\_temoporay\_graph.m”

Fig 5 (a) Weighting matrices are respectively stored in variables: *G\_ini,G\_est,G\_mainten*

Nodes name are stored in the variable: *Node\_Name*

Fig 5 (b) Module interaction matrices are stored in *N\_R1,N\_R2 and N\_R3* for initialization, establishment and maintenance period respectively.

**Figure 6:**

Run the script “.\Graph Inference \main\_func\_PHOCOS\_inference.m”

Persistent influence graph is stored in the variable *D*

Persistent Crosstalk recovered by PHOCOS is stored in the variable G\_sparse

Fig. 6(b) is easily identified from Fig 6 (a) without the need of computation.

**Figure 7:**

1. Run the script “.\Robustness Verifications\ main\_func\_five\_timeregions.m”

Five module level interactions are stored from N\_R1 to N\_R5 respectively.

1. Run the script “.\Robustness Verifications\ network\_Robustness\_perclass\_drop.m”

**Note**: Berfore you running this script, you should run Fig 6 first to generate the reference graph for comparison. Check whether do you have the graph\_result.mat file in the ‘.\Intermediate results\Graph Inference’ file.