SHARIF UNIVERSITY OF TECHNOLOGY

CAUSAL INFERENCE

Estimating High-Dimensional Directed Acyclic Graphs with the PC-Algorithm

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a

matlab code is attached.

b

After running algorithm, there was **414** Edges.

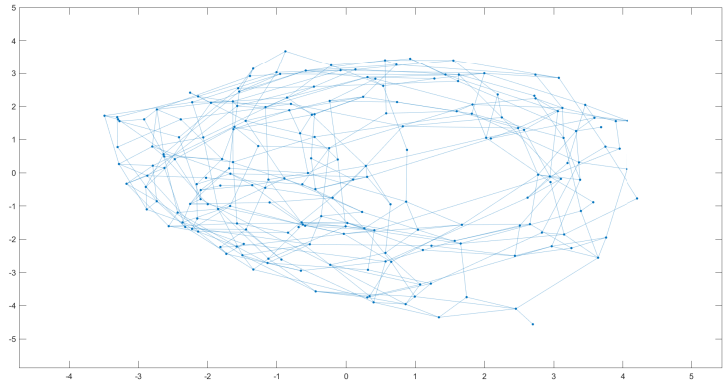

Figure 1: skeleton of pc-data

c

We changed code in about 3 lines. After running algorithm, there was **313** Edges.in both cases we got same result as **pcalg**. improved algorithm take much more time to compute obviously.

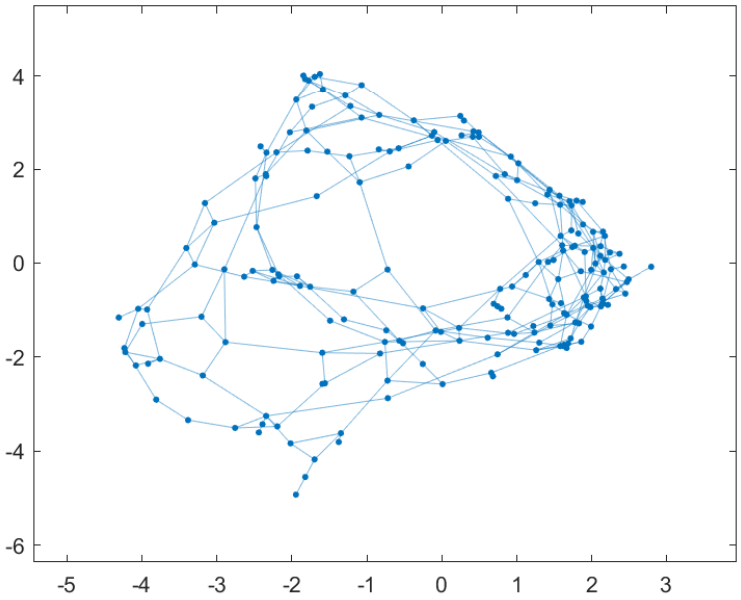

Figure 2: skeleton of pc-data

d

we ran both algorithms 200 times, 10 different alphas and 20 random DAGs.

algorithm	extra	missing	recall
pc	6.7%	25.9%	74.1%
stable-pc	4.14%	26.0%	74.0%

result shows that there is no important difference between 2 algorithm in data with few nodes and generated from Gaussian RV. but stable-pc has out-performance in omitting extra edges, it means the set of edges selected by stable-pc is more reliable than pc.