

JSM 2021 — Statistical Learning and Data Science

Missing Value Imputation of Network Node Attributes

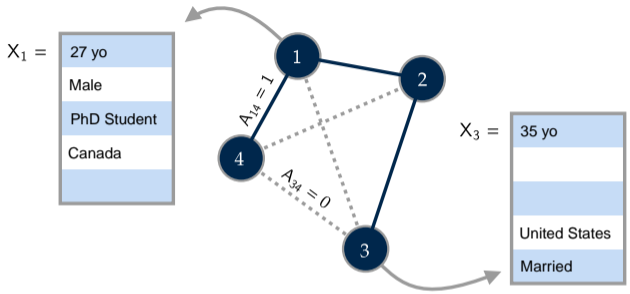
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Problem Description



X

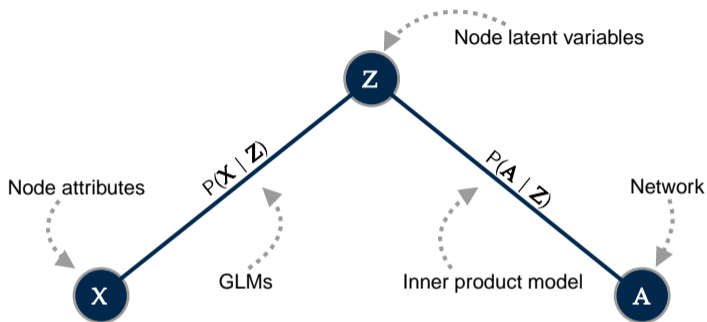
27	M	PhD Student	Canada
	F		China
35			USA

p

A

1	0	1
	1	0
		0

N



Imputation as estimation + prediction:

- Obtain latent variable posterior (variational inference)
- Compute posterior predictive distributions of missing entries in X

NAIVI: Node Atttributes Imputation with Variational Inference

Python package available at

github.com/fontaine618/NAIVI

Results — Synthetic data

