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Overview

Motivation

A model for:

- Link prediction or community detection in social networks.
- Objects with coupling relations along time(serial coupling relations).
- Capturing some aspects(infinite, dynamic, mixed-membership and data-driven inference).

Motivation(cont.)

- Infinite: We do not have to define the number of communities before hand. It can prevent under or over fitting problem.
- Dynamic: The number of communities can change over time.
- Mixed-membership: one node can belongs to multiple communities.
- Data-driven inference: model bases on data only.

Litarature review

IRM

Infinite Relation Model(Kemp et al. 2006) cluster nodes into different groups based on their pairwise and directional binary interactions.

- Infinite.
- Not take into account changing with time.
- One node can only belong to one community.
- Data-driven.

dIRM

Dynamic Infinite Relation Model(Ishiguro et al. 2010)

- Infinite.
- Changing with time.
- One node can only belong to one community.
- Data-driven.

Litarature review(cont.)

MMSB

Mixed-Membership Block Model(Airoldi et al. 2008)

- Not Infinite.
- Not take into account changing with time.
- One node can belong to multiple communities.
- Data-driven.

LFRM

Latent Feature Relation Model(Miller et al. 2009)

- Infinite.
- Does not take into account changing with time.
- One node can belong to multiple communities.
- Data-driven.

Litarature review(cont.)

Sticky HDP-HMM

Sticky Hierachical Dirichlet Process - Hidden Markov Model(Fox et al. 2008)

- Infinite.
- Changing with time.
- One node can only belong to one community.
- Data-driven.

LFRMtimes

A model can capture all aspects:

- Infinite.
- Changing with time.
- One node can belong to multiple communities.
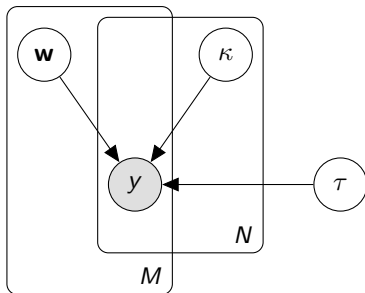- Data-driven.

Figure: LFRMtimes.

Blocks of Highlighted Text

Block 1

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer lectus nisl, ultricies in feugiat rutrum, porttitor sit amet augue. Aliquam ut tortor mauris. Sed volutpat ante purus, quis accumsan dolor.

Block 2

Pellentesque sed tellus purus. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Vestibulum quis magna at risus dictum tempor eu vitae velit.

Block 3

Suspendisse tincidunt sagittis gravida. Curabitur condimentum, enim sed venenatis rutrum, ipsum neque consectetur orci, sed blandit justo nisi ac lacus.

Multiple Columns

Heading

1. Statement
2. Explanation
3. Example

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer lectus nisl, ultricies in feugiat rutrum, porttitor sit amet augue. Aliquam ut tortor mauris. Sed volutpat ante purus, quis accumsan dolor.

Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table: Table caption

Theorem

> **Theorem (Mass–energy equivalence)**
>
> $E = mc^2$

Verbatim

Example (Theorem Slide Code)

```
\begin{frame}
\frametitle{Theorem}
\begin{theorem}[Mass--energy equivalence]
$E = mc^2$
\end{theorem}
\end{frame}
```

Figure

Uncomment the code on this slide to include your own image from the same directory as the template .TeX file.

Citation

An example of the \cite command to cite within the presentation:

This statement requires citation [Smith, 2012].

John Smith (2012)

Title of the publication

Journal Name 12(3), 45 − 678.

The End