# Summary of Expectation Maximization

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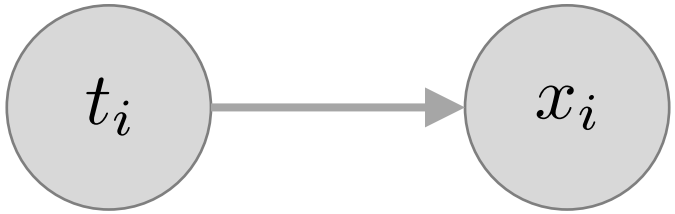
- Method for training Latent Variable Models



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- Method for training Latent Variable Models
- Handles missing data

| | High school grade | University grade | IQ score | Phone Interview |
|---|---|---|---|---|
| *John* | 4.0 | 4.0 | 120 | 3/4 |
| *Helen* | 3.7 | 3.6 | N/A | 4/4 |
| *Jack* | 3.2 | N/A | 112 | 2/4 |
| *Emma* | 2.9 | 3.2 | N/A | 3/4 |

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$$\Sigma_c \succ 0$$

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- Numerous extensions:
  - Variational E-step: restrict the set of possible q (week 3 and 5)
  - Sampling on M-step (week 4)

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**Cons**

- Only local maximum (or saddle point)
- Requires math :)