

Causality

Christina Heinze

1. Introduction
2. Graphical models
3. Causal graphical models
4. Causal models and covariate adjustment
5. Covariate adjustment
6. Frontdoor criterion, instrumental variables and transportability
7. Counterfactuals, potential outcomes and estimation
8. Towards structure learning
9. Constraint-based causal structure learning
10. Score-based causal structure learning and restricted SEMs
11. LiNGAM and Invariant Causal Prediction

结构因果模型:

- | | | |
|----------------------|----------------------|------------------|
| 1. 简介 | 9. 链状结构 | 17. 观测数据和试验数据 1 |
| 2. 辛普森悖论 1 | 10. 叉状结构 | 18. 观测数据和试验数据 2 |
| 3. 辛普森悖论 2 | 11. 对撞结构 | 19. 干预 |
| 4. 概率统计基本工具 1 | 12. D-分隔 | 20. do 算子 |
| 5. 概率统计基本工具 2 | 13. 模型检验和等价类 | 21. 调整公式 |
| 6. 图模型 | 14. 乘积分解法则 | 22. 支线任务: 调整公式实例 |
| 7. 结构因果模型 | 15. 混淆变量 | 23. 支线任务: 干预调整公式 |
| 8. Intransitive Case | 16. 习题 1.3.2 和 1.4.1 | 24. 结果模型 |

Rubin 因果模型:

1. Simpson's paradox
2. Notations and framework
3. Random experiment
4. Stratification
5. Observational study
6. Propensity score
7. Double robust estimator

October 28, 2025