

# #DrawTheDAG



**Peter Hull**

@instrumenthull



I try to not get political on twitter but you should probably not inject disinfectant into your body

10:30 PM · Apr 23, 2020 · Twitter Web App

9 Retweets 129 Likes



**AlexBartik** @AlexBartik · Apr 23, 2020



Replying to @instrumenthull and @autoregress  
draw the dag



4



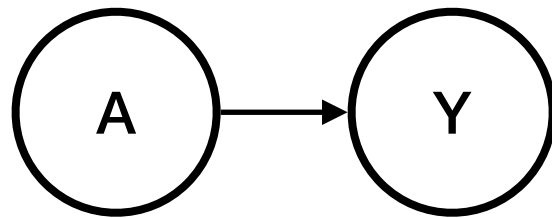
3



48

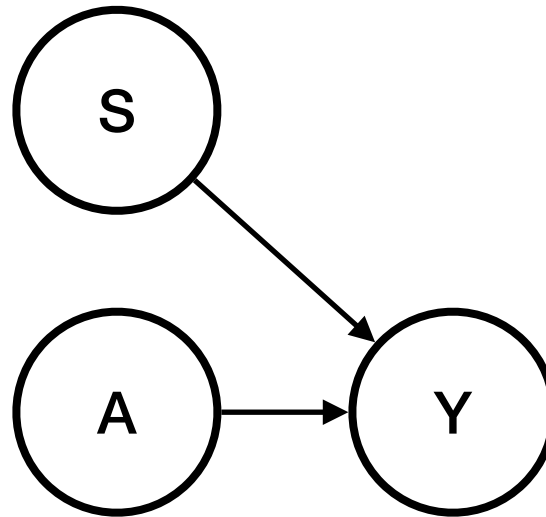


## Randomized Experiment



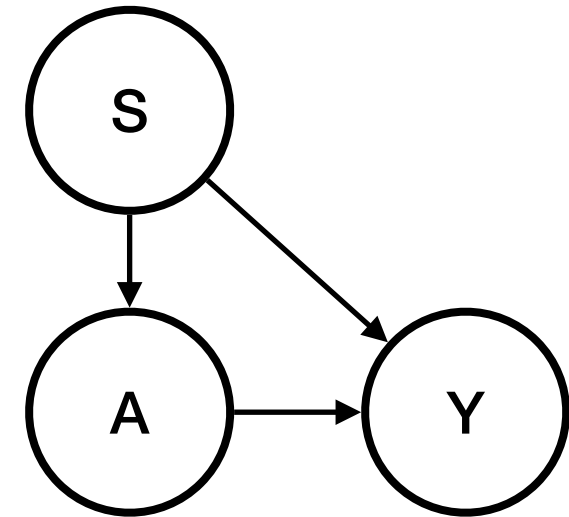
$$E[Y|A]$$

## No Confounding



$$E[Y|S, A]$$

## Observed confounders (we chose A!)

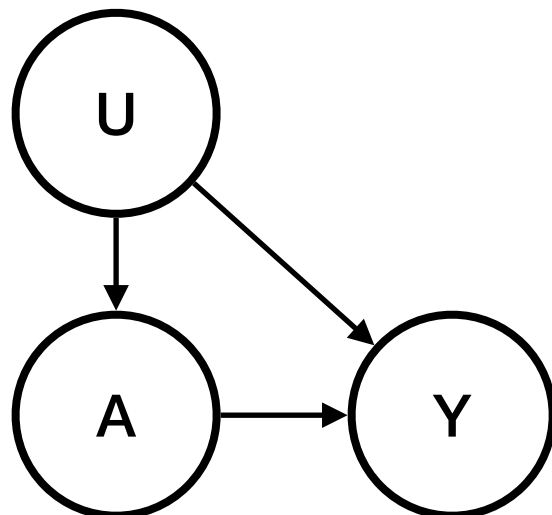


$$E[Y|S, \text{do}(A)]$$

Special DAGs where we have full knowledge of treatment assignment mechanism

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## Confounded DAG



- Action was not under our control.
- We don't know how action was chosen.
- Confounding means we could be arbitrarily wrong.
- When is this actionable?