Map of causal inference

Level-2

Intervention

Level-3

Imagination

Level-1

Association

No

Yes

No

Yes

Yes

No

Data Fusion

Semi-supervised

No

Deep Learning

Supervised ML

Yes

No

Yes

Causal discovery

Yes

Unsupervised methods

Experiment Design

Mediation analysis

Yes

HTE/ITE

Doubly Robust Estimation

Sensitivity passed?

Yes

No

ATE

Data from other environment? t

No

Yes

Able to do experiment?

Yes

No

Need counterfactual inference?

Have front door or IV?

No

Is graph or prior available?

Yes

No

With heterogeneity?

Yes

No

No

Yes

Is collider distinguishable?

No

Is this a how or why question?

v

Is mediator distinguishable?

Yes

Yes

Yes

Is treatment predictable?

Is treatment randomized?

Is there label for each data points?

Is this a prediction problem?

Do you want to do deep learning?

No

Yes

Is this a causal problem?