tidyhte: an R package for HTE estimation using DR-learner

13 August 2023

Summary

Heterogeneous treatment effects are conditional causal effects: how causal effects vary based on units' characteristics. The `tidyhte` package is designed to help with estimation of heterogeneous treatment effects (HTE) from observational or experimental data. This package implements the methods of Kennedy (2022) and presents them through a tidy-style user-facing API.

The design principles undergirding this package are (1) the APIs should be tidy-friendly, (2) analyses should be easy to replicate with minor changes, (3) specifying complex ensembles for the nuisance functions should be straightforward, and (4) sensible diagnostics should be easily accessible. Plotting and formatting of the results are left for the end-user to customize.

Moreover, the package focuses on ensuring that the typical practices of empirical social scientists are supported. Weighting to ensure alignment with population average effects and clustered data are naturally supported by `tidyhte`.

Statement of need

Acknowledgements

References

Kennedy, Edward H. 2022. "Towards Optimal Doubly Robust Estimation of Heterogeneous Causal Effects." https://arxiv.org/abs/2004.14497.