

Counterfactual Causal Inference on Health-indicator Effect of Lifestyle Changes

Zisheng Li¹

Shigeru B.H. Ko, Ryoko Shimizu-Hirota, Norio Gouda and Masahiro Ogino

¹ Research & Development Group, Hitachi, Ltd.

We propose a method to estimate counterfactual treatment effect in longitudinal setting. We consider "treatment" as lifestyle changes and perform treatment effect analysis on a Japanese health checkup dataset of 6,150 subjects over 6 years. We predict average treatment effect (ATE) 5-year ahead on 5 health indicators. We achieve normalized RMSE of 3.9% for the ATE prediction.