26.02.2024
[Summer School 2024: Health Economics]
[Module 2]
[Course 2a: Health Econometrics]
[Course description]

Title: Health Econometrics / Machine learning

Lecturer: Prof. Dr. Martin Spindler

Course duration in academic hours: 12 hrs

Credits (ECTS): 3 credits in combination with course 2b, 2c

Course description

This course gives an introduction into health econometrics and recent advances. The focus will be on causal inference, heterogeneity and machine learning, in particular how machine learning methods can be used for causal inference. In the health sector digitization leads to many new high-dimensional / big data sets which are available for practitioner and researchers. A key challenge is how these big data sets can be analysed, in particular how causal statements can be derived which are important for policy evaluation.

The goal of the course is to give the students a first introduction how machine learning methods can be used in the field of health economics. We will cover:

1) Recap. Regression Analysis

2) Inference in the High-Dimensional Setting

3) Machine Learning Methods: Lasso, Regression Trees, Random Forest, Boosting, Neural Nets

4) Machine Learning Methods for Causal Inference: The Double / Debiased Machine Learning Approach

Notice: The program is subject to change.

In cooperation with:

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