Bookmarks

- Module 1: The Basics of R and Introduction to the Course
- Entrance Survey
- Module 2: Fundamentals of Probability, Random Variables, Distributions, and Joint Distributions
- Module 3: Gathering and Collecting Data, Ethics, and Kernel Density Estimates
- Module 4: Joint, Marginal, and Conditional Distributions & Functions of Random Variable

Combining Estimation and Prediction - Quiz

Bookmark this page

Question 1

1/1 point (graded)

Even if we cannot back out individual coefficients from statistical learning methods, these methods can be useful in economics through: (Select all that apply)

- [ ] a. Improving the randomization done in experiments
- [x] b. Processing different data to generate economic indicators of interest
- [ ] c. Replicating experiments for scientific validity
- [x] d. Answering $\hat{y}$ problems, where the relevant policy question relies on our ability to make accurate predictions, not on a causal question.

✔

Explanation

There are really two main dimensions through which machine learning can be useful for economic analyses. Firstly, machine learning can be a useful tool in constructing measures for unobservable characteristics, as a function of observable characteristics. The example he gave in lecture is that of

- Module 5: Moments of a Random Variable, Applications to Auctions, & Intro to Regression
- Module 6: Special Distributions, the Sample Mean, the Central Limit Theorem, and Estimation
- Module 7: Assessing and Deriving Estimators - Confidence Intervals, and Hypothesis Testing
- Module 8: Causality, Analyzing Randomized Experiments, & Nonparametric Regression
- Module 9: Single and Multivariate Linear Models
- Module 10: Practical Issues in Running

measuring corruption. The second important application, is in designing policies which rely on our ability to predict. The example Prof. Mullainathan gave is targeting the poor: in order to decide who is poor (for example to target subsidies), the government often uses an arbitrary function of some variables, and some threshold to decide who is poor. Machine learning can help improve these measures, as it will improve the ability of their model to predict who is poor, instead of relying on an arbitrary function of some variables. One additional application of machine learning, which Prof. Mullainathan mentioned, is that we can use machine learning to improve causal estimates, though this will not be discussed in this class.

Submit You have used 1 of 2 attempts

✔ Correct (1/1 point)

Question 2

1/1 point (graded)

True or False: Throughout the lecture Professor Mullainathan uses the concept of a problem being a "$\hat{\beta}$ problem" when referring to problems of finding the better predictors and, and a "$\hat{y}$ problem" being problems involved with finding the better estimates of a probability distribution process.

a. True

b. False ✔

Explanation

Regressions, and Omitted Variable Bias

▾ Module 11: Intro to Machine Learning and Data Visualization

Machine Learning I
due Dec 12, 2016 05:00 IST

Machine Learning II
due Dec 12, 2016 05:00 IST

Visualizing Data
due Dec 12, 2016 05:00 IST

▸ Module 12: Endogeneity, Instrumental Variables, and Experimental Design

This statement is false. As described in lecture, the statements made are true if we reverse the order. That is, $\hat{\beta}$ problems correspond to best estimation and $\hat{y}$ problems with best prediction. The reason this notation is as such is because of the conventions of labeling estimated parameters as β, and of labeling a function of interest that is the argument that minimizes an empirical loss function as y.

Submit You have used 1 of 1 attempt

✔ Correct (1/1 point)

Discussion
Topic: Module 11 / Combining Estimation and Prediction - Quiz

Show Discussion

© All Rights Reserved

© 2016 edX Inc. All rights reserved except where noted. EdX, Open edX and the edX and Open EdX logos are registered trademarks or trademarks of edX Inc.

POWERED BY OPENedX

Download on the App Store ANDROID APP ON Google play