

MITx: 14.310x Data Analysis for Social Scientists

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Combining Estimation and Prediction - Quiz

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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
- ☑ b. Processing different data to generate economic indicators of interest
- c. Replicating experiments for scientific validity
- 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

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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.

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You have used 1 of 2 attempts

Correct (1/1 point)

Question 2

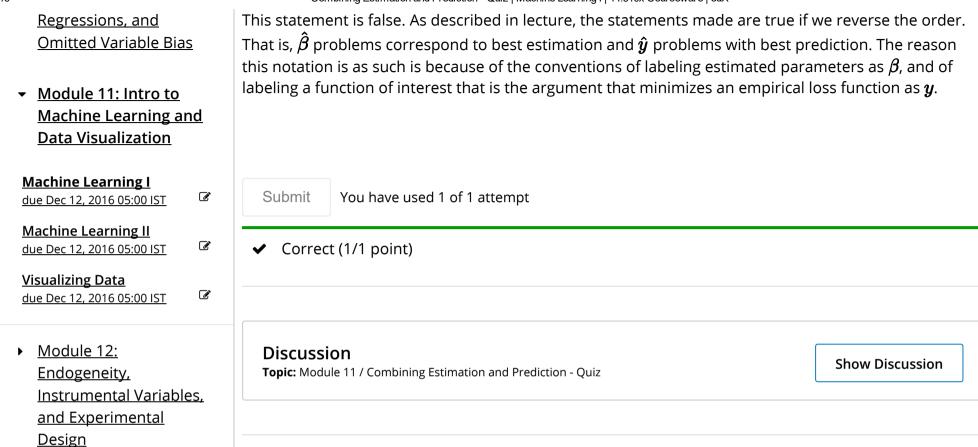
1/1 point (graded)

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



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