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- ML is the dominant modern approach to building AI systems

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- Philosophically, these can each be framed as prediction problems

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- Statistical inference:
 - Predict what Y (or β) would be in a different sample
- Causal inference:
 - Predict what Y would be if we switched each person's treatment status
- Measurement quality:
 - Predict what Y would be if we could perfectly measure underlying constructs

Econometrics and Machine Learning use different words for the same objects

Econometrics

Machine Learning

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- Dependent variable

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- Estimation

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- Target variable
- Feature
- Example (Instance)
- Cost function (Loss function)
- Training (Learning)

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- This is **different** than the goal of econometrics! (causal inference)

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- Division of training/validation/test sets should be **random**