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**Title of the selected paper**: “Machine Learning about Treatment Effect Heterogeneity: The Case of Household Energy Use”

**Citation:** Knittel, Christopher R., and Samuel Stolper. 2021. "Machine Learning about Treatment Effect Heterogeneity: The Case of Household Energy Use." AEA Papers and Proceedings, 111: 440-44.

**Abstract:** We use causal forests to evaluate the heterogeneous treatment effects (TEs) of repeated behavioral nudges toward household energy conservation. The average response to treatment is a monthly electricity reduction of 9 kilowatt-hours (kWh), but the full distribution of responses ranges from -40 to +10 kWh. Households learn to reduce more over time, conditional on having responded in year one. Pre-treatment consumption and home value are the most commonly used predictors in the forest. The results suggest the ability to use machine learning techniques for improved targeting and tailoring of treatment.

**Empirical methodology used:** Causal forests

**Data:**

1. **Datasets:** 1) Treatment Var; 2) “Wave” start date; 3) Energy consumption; 4) household characteristics
2. **Horizon:** 2013 - 2018
3. **Frequency:** monthly
4. **Source:** Eversource
5. **Availability:** CERTAINLY NOT AVAILABLE

**Coding:**

1. Paper’s code is a mix of Stata/R
2. I would replicate everything in Python