

導讀： Estimating heterogeneous reaction to experimental treatments

導讀者： 李孫廷

October 16, 2018

1 What is the main the issue?

The author propose a two-step procedure to estimate heterogeneous reaction to experimental treatments under panel structure.

2 Why should we care about it ?

Traditionally, one can use finite mixture model to identify heterogeneous reaction, however, these model have following drawbacks:

1. Need to set the number of types ex-ante.
2. Cannot apply in panel structure.
3. Data hungry, but the datasets from experiments are often too small to converge.

3 How did the author get there ?

By using repeated experiment's data, for each individual i , the author first estimate the OLS coefficient β_i and build regression tree of y_{it} on β_i .

After organizing the type space, the author then take each types as dummy variable ,create interaction term and test the model under random effect structure.

4 What is the author's answer ?

In simulation, such algorithm shows great performance in both classification of individual's type and estimating the treatment effect.