

THE HONG KONG POLYTECHNIC UNIVERSITY DEPARTMENT OF MANAGEMENT AND MARKETING

Departmental Research Seminar

Pre-Training Estimators for Structural Models: Application to Consumer Search By



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Date : 23 Jun 2025 (Mon)
Time : 10:30 am – 12 noon
Venue : M802, PolyU

Abstract

We explore pretraining estimators for structural econometric models. The estimator is “pretrained” in the sense that the bulk of the computational cost and researcher effort occur during the construction of the estimator. Subsequent applications of the estimator to different datasets require little computational cost or researcher effort. The estimation leverages a neural net to recognize the structural model's parameter from data patterns. As an initial trial, this paper builds a pretrained estimator for a sequential search model that is known to be difficult to estimate. We evaluate the pretrained estimator on 14 real datasets. The estimation takes seconds to run and shows high accuracy. We provide the estimator at pnnehome.github.io. More generally, pretrained, off-the-shelf estimators can make structural models more accessible to researchers and practitioners.

Prof. Yanhao "Max" Wei is an associate professor at University of Southern California, Marshall School of Business. His research applies economic models, econometrics, and machine learning to understand consumer and product data. He completed his PhD in economics at University of Pennsylvania.

All interested are welcome.



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