Syllabus for Master Class on Machine Learning Methods in Economics

Machine Learning

- Basic background
- Athey and Imbens, “Machine Learning Methods for Causal Effects”
- Athey and Wager, “Estimation and Inference of Heterogeneous Treatment Effects Using Random Forests”
- Asher, Nekipelov, Novosad, Ryan, “Classification Trees for Heterogeneous Moment-Based Models”
- Bajari, Nekipelov, Ryan, and Yang, “Demand Estimation Using Machine Learning Methods”
- Belloni, Chernozhukov, Hansen, “Inference on Treatment Effects After Selection Amongst High-Dimensional Controls (with an Application to Abortion and Crime)”, REStud, 2013
- Belloni, Chernozhukov, Fernandez-Val, Hansen, “Program Evaluation with High-Dimensional Data”, Econometrica, forthcoming

Applications: Integration of Structural Modeling and Policy

- Buchholz, “Spatial Equilibrium, Search Frictions, and Efficient Regulation in the Taxi Industry”
- Decarolis, Polyakova, and Ryan, “The Welfare Effects of Supply-Side Regulations in Medicare Part D”
- Polyakova and Ryan, “Search Frictions, Information Aggregation, and Demand in the ACA Marketplace”
- Greenstone, Ryan, Yankovich, “The Value of Statistical Life: Evidence from Military Retention Incentives and Occupation-Specific Mortality Hazards”