One-day seminar for Master students in Economics, Summer Term 2018

Selected applications of machine learning in economics and game theory

First meeting and allocation of seminar topics:
Friday, April 20, 2018, 3pm, room 01.005 **(ATTENDANCE REQUIRED)**

Seminar:
Friday, July 13, 9am – 4pm, CB 2.40 (presentation room of CB library, 2nd floor)

Language:
English

How topics are allocated: There is no need to register via email beforehand.
Please take a look at the various topics before the prep meeting.
Chapters 4-10 in "An Introduction to Statistical Learning" have priority.
Topics are allocated at the prep meeting.

Grades are based on a presentation and a 15 page seminar paper,
plus the contribution to the discussion during the seminar.
Deadline for papers is one week after the seminar. Please submit your seminar paper electronically (in pdf) to oechssler@uni-hd.de by Friday, July 20, 23:59.

Aim of the seminar: You should present the material in a way such that other participants can understand it. The given literature is only a starting point, you need to find additional relevant literature. For this search you can use e.g. EconLit (on the library webpage) or a Discussion Paper Archive and Google Scholar.

Possible topics:

1. Chapter 4-10 from Gareth James, Daniela Witten, Trevor Hastie, Robert Tibshirani: "An Introduction to Statistical Learning", Springer. http://www-bcf.usc.edu/~gareth/ISL/ISLR%20Seventh%20Printing.pdf

2. Camerer, Colin, Gideon Nave, and Alec Smith. 2017. "Dynamic unstructured bargaining with private information: theory, experiment, and outcome prediction via machine learning." Working Paper.

3. Kleinberg, Jon, Annie Liang, and Sendhil Mullainathan. 2017. "The Theory is Predictive, but is it Complete? An Application to Human Perception of Randomness." Working Paper.

4. Peysakhovich, Alex, and Jeff Naecker. 2017. "Using Methods from Machine Learning to Evaluate Models of Human Choice Under Uncertainty." JEBO

5. Kleinberg, J., Lakkaraju, H., Leskovic, J., Ludwig, J., & Mullainathan, S. (Working Paper). Human Decisions and Machine Predictions. NBER Working Paper

6. Yeomans, M., Shah, A. K., Mullainathan, S., & Kleinberg, J. (Working Paper). Making Sense of Recommendations. Management Science.

7. Varian, H. R. (2014). Big data: New tricks for econometrics. The Journal of Economic Perspectives, 28(2), 3-27.

8. Athey, S., & Imbens, G. (2015). Machine learning methods for estimating heterogeneous causal effects. arXiv preprint, arXiv:1504.01132.

9. Jens Ludwig, Sendhil Mullainathan, Jann Spiess, Machine Learning Tests for Effects on Multiple Outcomes, 2017, mimeo.

10. Drew Fudenberg Annie Liang, PREDICTING AND UNDERSTANDING INITIAL PLAY

11. Sendhil Mullainathan and Ziad Obermeyer , Does Machine Learning Automate Moral Hazard and Error? AER 2017

12. Sendhil Mullainathan and Jann Spiess, Machine Learning: An Applied Econometric Approach, J of Econ Perspectives, 2017

13. Jean-Pierre Dubé, Sanjog Misra, Scalable Price Targeting

Additional papers in the Repository: http://econ-neural.net/