Promotionskolleg Module 6800: Machine learning in applied economic analysis
August 18 to 22, 2025 (in presence in Bonn, Meckenheimer Allee 174, "Fakultätssitzungssaal")

For all material, see github repository
For assignment upload: Use https://uni-bonn.sciebo.de/s/NCzwYXpZqKogTHD with PW sent to you in via email.

Assignment submission instructions:
1. Before uploading: Rename your file by appending "first name_ last name" to the end of the file name. Do keep the rest of the file name
2. (e.g. *6800_Day1_FirstName_LastName.ipynb*).
3. Please upload your assignment (i.e. your jupyter notebook) into the folder in the .ipynb format.
4. Deadline for submission of the assignments is October 15, 2025.

Prior to the course,
- Go through the intro slides provided on the github repository and do the "Things to do before the course".
- Open the introductory jupyter notebook and follow instructions in the notebook
- Turn in your jupyter notebook (see instructions above) before the course starts

Monday, August 18

10:00 – 12:00   Welcome & intro, Machine Learning and causal inference, prediction versus estimation, overfitting and regularization

12:30 – 14:00   Lunch Break

14:00 – 15:00   Continuation of the morning and Q&A

15:00 – 17:00   Supervised lab session with assignment

Tuesday, August 19
9:00 – 12:00   Trees, forests and ML model interpretation

12:00 – 13:30   Lunch Break

13:30 – 14:30   Continuation of the morning and Q&A

14:30 – 17:00   Supervised lab session with assignment

Wednesday, August 20
9:00 – 12:00   Neural Networks

12:00 – 13:30   Lunch Break

13:30 – 14:30   Continuation of the morning and Q&A

14:30 – 17:00   Supervised lab session with assignment

Thursday, August 21
9:00 – 12:00   ML and causal inference (Part 1)

12:00 – 13:30   Lunch Break

13:30 – 14:30   Continuation of the morning and Q&A

14:30 – 17:00   Supervised lab session with assignment

Friday, August 22
9:00 – 11:30   ML and causal inference (continued) and Q&A

11:00 – 13:30   Q&A session, brief own (verbal) research pitches related to ML with the possibility to discuss approaches and questions

13:30 – 14:00   Feedback and farewell