Machine Learning and Econometrics, Part I

Course Schedule: Here is a tentative schedule for the course:

Lesson	Main Topic	Readings/Assignments
07/17/2023	Introduction of the course A short boot camp in R/Rstudio	We will be using Markdown
07/18/2023	Big Data and Statistical Learning I Big Data and Statistical Learning II	Making our first Markdown file
07/19/2023	Regression I Regression II	Vietnam Shrimp Data.
07/20/2023	Regression III Uncertainty	**Assignment 1 is due**
07/21/2023	Resampling methods Model selection Model Tuning and Data Splitting/Recommendations	
07/24/2023	Regularization I	**Assignment 2 is due**
07/25/2023	Regularization II Classification I	
07/26/2023	Classification II	**Assignment 3 is due**
07/28/2023	**Midterm Exam**	A review will be provided
07/29/2023	An overview of algorithms mostly used in the recent economic literature part 1 (Lasso, Ridge, Elastic Net regressions)	**Assignment 4 is due**
07/31/2023	An overview of algorithms mostly used in the recent economic literature part 2	
08/01/2023	(Random Forests, Gradient Boosting Machine, and Neural Networks)	**Assignment 5 is due**
08/02/2023	Comparing algorithms' performances Class Predictions	
08/03/2023	Evaluating Predicted Classes	**Assignment 6 is due**
08/04/2023	Replicating scientific papers using R part 1 (prediction tasks)	Reading Papers
08/05/2023	Replicating scientific papers using R part 2 (counterfactual tasks) Rule Based Models —	Reading Papers
08/07/2023	**Research Project Presentation I** **Research Project Presentation II**	Oral Presentation Oral Presentation
08/10/2023	**Final Exam**	Will be based on all topics covered