SPRING 2019

M1586.002500 Information Engineering for CE Engineers

Final Project: Solving a CEE Problem by Statistical Learning

Time: June 21 (Interview or Seminar – the presentation format to be announced)

Location: To be announced (Submit the PPT material to the instructor by 9am)

Topics:

Unlike the midterm exams, the final term project focuses on solving a CEE problem using statistical learning method(s) you learned from this course. The student is encouraged to choose a problem in which statistical learning method(s) can show their benefits in terms of prediction and/or interpretation. Focusing on problem-solving is different from mere applications in that (1) an important problem is identified, (2) a proper method is selected to solve the problem, and (3) benefits of the problem-solving are demonstrated. Since this is the final term project, it is also recommended to how important issues of statistical learning, e.g. bias-variance trade-off, regularization, high-dimension, nonlinearity, are addressed during the problem-solving process.

Required components (in slides):

- Introduce a new CEE problem and motivations for solving the problem
- Describe the statistical learning method the student selected and why the student believes it is best among those introduced in this course
- Present the R codes and summary of the results (= actual benefits)
- Discussions and insights the student gained from the problem-solving exercise

Maximum number of slides: 17 (including the cover/ending slides)

Final Report: Submit your final report to the instructor by email (Due June 25, 6pm)

Evaluation criteria:

(1) Good skills of problem-solving

(2) Correct exercise of statistical learning methods and techniques

(3) Clear presentation of the introduction, main tasks (procedure and results) and concluding remarks