CEE 616: Probabilistic Machine Learning Due Nov 25, 2025 at 11:59PM.

10.16.2025

Objectives

Through the course project, you will use the various methods you have learned and are currently learning in this class to analyze, predict or make inferences from a dataset of interest.

The purpose of this proposal is to afford you the opportunity to detail your project plans and receive feedback on the general direction of your approach. Your proposal should be between 1 and 1.5 pages in length. If you are unsure of where to start or would like a dataset to work with, please let me know, as I can provide you with some options. You can work on your project individually or in groups of no larger than 3.

General Instructions

Your proposal should have the following sections.

- Introduction: Include a brief introductory/motivational paragraph of your project. (Why are you interested in this topic? Why is it important?)
- **Objectives:** In a paragraph or list, outline the specific goals of your project (What process are you trying to understand? What are you trying to predict?)
- Data: Briefly describe the dataset you intend to use. (Specify the dimensions, i.e. number of observations and features).
- Methods: List or describe at least 2 modeling approaches (supervised or unsupervised) from this course that you plan to apply in this project and their relevance to your data. (E.g. You could incorporate clustering and SVM in one framework. Or you could estimate an ANN and a GAM on a dataset and compare their performance.)
- **Results:** Summarize your expected outcomes (from your proposed model(s)/modeling framework).

Submission Instructions

- 1. Submit a PDF of your proposal on Moodle by **November 25** using the naming format: <LastName>-Proposal.pdf.
- 2. If you choose to work in a group, ensure that all your last names are in the PDF filename. Each member of the group should submit a copy of the same the PDF on Moodle (same filename).
- 3. I am happy to meet anytime before Nov 25 to discuss your ideas or answer questions.