95-891 Introduction to Artificial Intelligence – Spring 2021

Final Project (presentations May 11th, paper due May 13, 2021)

The final project has two parts: a presentation and a report. The proposal is worth 1 point, the presentation is worth 9 points the report is worth 10 points for a total of 20 (together, the three parts count for 20% of the final grade). The focus is on a problem you choose, but should involve at least one area (search, representation, learning, natural language, vision, robotics, etc.) that we've covered in class. Your work will not be judged on whether your approach succeeds in achieving a particular accuracy metric (like RMSE or AUC). Rather, we are looking for an interesting problem and articulate answers to the questions below.

Presentation (9 points)

Allow no more than ten minutes, including Q&A. Preparing slides is highly recommended, but since the time is short, use a few slides (10-15 max) to describe highlights and save details for the report:

- What is the problem being solved?
- Why is the problem important? For example, who benefits from the problem being solved?
- What is the input?
- What is the output?
- What is the criteria for success, i.e. how do you know when you are done?
- If you are using external data sources:
    - Where does the data come from?
    - What does it look like (size, fields, type)?
    - What does your exploratory data analysis reveal about how the data should be prepared and used?
- Summarize your approach: what learning methods or other algorithms are you using?
- Include visualizations of your input data and results, as appropriate.
- How effective is your solution?
- What would you recommend as next steps?
- What are lessons learned from the project?
    - Did anything surprise you?
    - Was anything especially hard or easy?
    - If you were doing the project again, what would you do differently?

Grading criteria will include clarity of answers to the questions above, organization and delivery of the presentation, appropriate use of visuals, and clear responses in Q&A.

Final Report (10 points)

Answer the above questions with more detail. A Jupyter notebook may form all or part of the report but some part of the report needs to address the questions above and include answers to the following questions. In most cases the final report should not be longer than 10-20 pages. For projects done in

groups, only one person needs to submit the file(s) to Canvas; just remember to list all the group members.

- What are current approaches to solving the problem you chose, and how is your work differentiated from those approaches (if applicable)? If you built on any prior work, please include references.
- Include links to, and samples of, data sources as appropriate with more details on exploratory data analysis, including visualizations.
- What methods did you consider for solving the problem, and how did you select the approach you ended up using?
- How are you evaluating your solution? What baseline are you using (if appropriate)
- If you did your project in a group, please describe who did what on the project.
- Include any code you wrote as an appendix. Code should include a reasonable amount of comments that will allow us to follow the logic of the program.