PROJECT – COMP 4106 ARTIFICIAL INTELLIGENCE

The project is an opportunity for you to select a problem you are interested in and solve it using methods from artificial intelligence. The project must involve a practical implementation to solve the problem. The project may be in any application domain. The project must use methods from artificial intelligence; however, it does not need to use methods covered during class. The implementation may be completed using any programming language you choose.

The project may be completed individually, or it may be completed in small groups of two or three students. It is expected that the project should be similar in workload to approximately two to three assignments if completed individually. The expectations will depend on group size (i.e. expectations will be greater for groups of three students vs. groups of two students vs. individually).

Components

The project should contain three components: a proposal, a demonstration, and a report.

Proposal

The proposal is a one-page document that outlines the topic of your project. The proposal should contain the following elements:

1. Introduction of the problem.
2. Motivation for the problem.
3. Method(s) from artificial intelligence to be used.
4. Specific expected deliverables.

Effectively, the proposal should describe why the scope of the project is appropriate for this course. The course instructor will provide feedback on the proposal following submission. Students may submit the proposal earlier to receive earlier feedback on the proposal.

Demonstration

The project will be demonstrated to the teaching assistants during a live demonstration session. The demonstration allows students to showcase their implementation and allows teaching assistants to ask questions about the work.

The demonstration should be targeted toward teaching assistants (i.e. students who have completed a course in artificial intelligence). The demonstration should not assume that teaching assistants are already familiar with the specifics of the problem addressed in of your project.

Report

The project report will be a maximum twenty-page report that describes your project in detail. The report should contain the following elements:

1. Introduction of the topic.
2. Motivation of the topic.
3. Description of method(s) from artificial intelligence used.
4. The result(s) or outcome(s) achieved (both positive and negative results, if applicable).
5. Discussion of the implications of the work.
6. Directions for future work.
7. "User manual" describing how to run your implementation.
8. Statement of contributions (if applicable).

The report should be targeted toward the teaching assistants (i.e. students who have completed a course in artificial intelligence). The report should not assume that teaching assistants are already familiar with the specifics of the problem addressed in of your project. Students are not required to submit source code; however, a link may be provided if desired.

If the project was completed in a small group of students, the report must include a statement of contributions. This statement should identify: (1) whether each group member made significant contribution, (2) whether each group member made an approximately equal contribution, and (3) exactly which aspects of the project each group member contributed to.

Logistics

Proposal

Proposal due date: Friday, February 26, 2021

Page limit for proposals: 1 page

Please use a standard page format (i.e. page size 8.5" x 11", minimum ½" margins, minimum font size 10, no condensed fonts or spacing). Please submit the proposal as a PDF file.

Proposals are to be submitted electronically through cuLearn. It is your responsibility to ensure that your proposal is submitted properly.

Demonstration

Demonstration date: During final two weeks of class (to be arranged individually)

Time limit for presentations: 15 minutes

Demonstrations will be conducted during a live video conference with a teaching assistant. A sign-up sheet for demonstration timeslots will be posted on cuLearn prior to the weeks of demonstrations. Sign-up will be on a first-come first-served basis.

Report

Report due date: Wednesday, April 14, 2021

Page limit for reports: 20 pages

Please use a standard page format (i.e. page size 8.5" x 11", minimum ½" margins, minimum font size 10, no condensed fonts or spacing). The page limit includes all figures, tables, appendices, and references. You may provide links to external source code or multimedia. Please submit the report as a PDF file.

Reports are to be submitted electronically through cuLearn. It is your responsibility to ensure that your report is submitted properly.