CAP 5512 Evolutionary Computation
Spring 2018

Final Project

Proposal due on webcourses: **Thursday, April 9, 2020, 11pm**
Report due: **Monday, April 20, 2020, 11pm**
Presentation: **Wednesday, April 22, 2020, 10am-12:50pm**

For the final project you may work on a project of your choice. The topic must pertain to this class and must address a research question. You may but are not require to use the class code for the final project.

The final project is a group project. All members of a group are responsible for what is turned in by the group. That means that, if any issues or problems arise, they will affect all members of the group. Half of your grade will be the grade that I assign for the project; the other half will be based on your partner reviews.

Part 1: Project proposal

Please turn in to webcourses by 11pm Thursday, April 9, a brief write up answering the following questions in order for me to review your project idea.

1. Who will be working on the project? You must work in teams of two or three.
2. What is the question that you will be studying?
3. What is your motivation for for studying that question? Why would others in the field be interested in your work?
4. How do you plan to study your question?
   - If experimental, what experiments will you run? Why those experiments?
   - If theoretical, what mathematical approaches will you use? Why is the selected approach appropriate?
   - If applied, what comparisons to existing work will you make? Why compare against those methods?

   A project may contain components of one, two, or all three aspects.
5. If you will be running a GA, please describe how you will represent the information to be encoded on a GA individual.
6. If you will be running a GA, please describe your fitness function.
7. What do you expect will be the contribution of your work? How will it extend current published work?

Part 2: Paper

Please turn in by 11pm Monday, April 20, a 6 page report describing your project. Your report should include the following information.

- What is the goal of your project? (What hypotheses are you testing? What questions are you asking?)
- Motivation for your work: Why are your hypotheses or questions worth investigating? What do you expect to find?
- How did you address your goal? Please explain experimental methodology or implementation details. What methods do you use to explore each of your hypotheses and questions? Why are those methods good ones for exploring your topic?
- What are your results and what do they reveal? Make sure you discuss your results. Do not just present in a table for the reader to decipher on their own.
- What conclusions can you draw from your results? What contribution does your study make to the field of EC?

Your report must be formatted according to the AAAI conference paper format. Formatting instructions for LaTeX and Word are available here:
`https://www.aaai.org/Publications/Author/flairs-submit.php#Format`

Part 3

Prepare a presentation describing your project and your results. Presentations will be held on Wednesday, April 20, 2020. Each group will have 15 minutes to present their work.

Note: We will hold presentations during our final exam period contingent on my being able to access campus during that time.

Extra credit (10%)

Find two conference or journal papers that relate to the question you are studying in your project and discuss in your report and presentation how your work extends those works. These papers must be published conference or journal papers and cannot include ones we have discussed in class. Copies of those papers must be uploaded to Webcourses by the project due date of Wednesday, April 20, 2020 11pm in order to receive extra credit. Extra credit will not be granted for late submissions.

PLEASE be careful when discussing this work in the questions in your final report that you do not plagiarize sentences or phrases from the papers that you select. Discussion of related work is one of the most likely times when plagiarisim occurs.

Code

If you would like to use code other than the code from class, please check with me for approval.

This project cannot be part or related to work from another class, your thesis or dissertation, or any other work for which you are receiving class credit. If I learn that it is, the entire group will receive a zero on the

assignment. If you are concerned about possible overlap, please check with me before proceeding. All members of a group are responsible for what is turned in by the group.