Extra Credit: Modern AI Research

CS4300: Artificial Intelligence **Alan Kuntz**
University of Utah

1 Overview

In this extra credit assignment you will search for a modern AI research paper, read it, and create a short, ≥ 7 slide presentation summarizing the research.

We will be making these presentations available to the rest of the class so that everyone can learn about a variety of modern applications of AI. If you would prefer that I did not make your slides available to the rest of the class, please email myself and the TAs through canvas prior to submitting the assignment indicating your preference. If you do so, you will still receive credit for the assignment but we will exclude your slides from the set of shared slides.

2 Finding the Paper

You will first find a paper that relates to the topics we have discussed in class, e.g., Search (A*, Adversarial, Minimax, Expectimax, etc), CSPs, MDPs, RL, HMMs, etc.

To find the paper, look at the 2022 or 2023 proceedings of the AIII conference on Artificial Intelligence, one of the top AI research conferences, found here:

https://aaai.org/Library/AAAI/aaai-library.php

3 Creating the Presentation

Read through the paper thoroughly *at least* twice. It is not important to understand every nuance of every equation, however you should attempt to fully understand the motivation (i.e., the problem the paper is attempting to solve and why it is important) as well as the method from a high level, the paper's experiments/evaluation, and the paper's results.

You will then create a short slide-show-based presentation summarizing the paper. The presentation should be at least 7 slides, one for each of the following

topics, however feel free to use more than 7 slides, within reason, if you think extra slides would help convey the topics listed below.

Use the following structure, at least one slide per topic:

1. Title slide–Include the paper's title, the authors of the paper, and the phrase "Summary by [your name]". It is also often helpful to include an overview figure, which you can draw from the paper if such a figure exists, on the title slide as it can help the audience get an intuitive idea of what is coming later in the presentation.
2. Introductory slide(s)–Describe the problem the paper is trying to solve and why it is an important to solve. Including figures can be very helpful here.
3. Method overview slide(s)–Describe, at a high level, how the method works. Including figures can be very helpful here.
4. Experiments—Describe the experimental setup or how the paper evaluates the method. Figures can also be very useful here.
5. Results—Describe the results of the experiments. Again, figures are great for this.
6. Discussion—Discuss the implications of the method and results on the problem the method was trying to solve.
7. Relation to course topics—Discuss the ways in which the paper relates to the topics we have covered in class.

4 Submission Instructions

You will upload two files in gradescope:

1. ⟨uid⟩-EC-Slides.pdf
   Your presentation in the form of a .pdf file (which has one page per slide). Most major slideshow creation tools have a pdf export option, so this should not require any extra work. Because you will submit in pdf form, it is not advisable to utilize videos or animations in your slideshow, as those will not be effective after the conversion to pdf.
2. ⟨uid⟩-EC-Paper.pdf
   The research paper you are summarizing in .pdf form.

Group submissions are not allowed for this assignment, however feel free to discuss the paper you have chosen with other students. Discussing research with other students is one of the great aspects of academia!