Checkpoint 1 – Draft Review of Selected Research Papers

Task 1: Select Research Papers (at least 3)

For this checkpoint, you will be required to select and read *at least* three (but could be more) **related** recent conference or journal research papers in the fields of AI, computer vision, natural language processing, or machine learning. Specifically, the papers must have been:

1. Published in 2018, 2019, 2020, 2021, or 2022.
2. Published in one of the following venues (*=preferred venues):
   a. Machine Learning (NeurIPS*, ICML*, ICLR*, AISTATS, UAI, JMLR)
   b. Artificial Intelligence (broader) (AAAI*, IJCAI)
   c. Computer Vision (CVPR*, ICCV, ECCV)
   d. Natural Language Processing (ACL*, NAACL, EMNLP)
3. Contain material that can be implemented. (at least one paper)

If you want to do a research paper outside of these standard requirements, you must email the instructor and receive explicit approval over email before the due date.

(Note: You will be allowed to change your selected papers later if you choose but your final paper will require a summary and critique of your final selected papers.)

Task 2: Draft Review of Selected Papers

You should submit a PDF for peer review to Circuit that follows the typesetting conventions of ICML (see ICML 2022 author instructions for LaTeX template and instructions). For references, use BibTex (*.bib file) as in the ICML template. I strongly suggest using www.overleaf.com for writing your paper since it includes all necessary software for doing LaTeX. For example, you should use section headings to signify the first two required elements below. The required elements of this checkpoint are:

1. **[All papers] Summarize each paper and its key contributions** – You should summarize each paper *in your own words* including the *key contributions*. What new concepts, algorithms, theory, connections, or experiments does the paper contribute to the body of research literature (often listed at the end of the introduction)? Note plagiarizing the abstract or sentences from the paper will not be accepted as per the syllabus and could result in a failing grade. If you understand the paper well enough, you should be able to summarize the main points in your own words. If you have any questions about plagiarism, please feel to ask anonymously on Piazza or email me. If you ever use any quotes from the paper, you must surround the sentence in quotes and place a proper citation. You should include citations to each paper in this section when you discuss them.
2. **[All papers] Critically review each paper** – You should write a critical review of each paper. This should review the strengths and weaknesses of the paper as well as any questions you would want to ask the authors. The comments in your reviews should be detailed and specific rather than vague. You could also discuss anything else about the paper including other related works or how it relates to the other papers you selected (e.g., in what contexts it might be better and what context it might be worse than other work). Overall, the goal of this part is to demonstrate that you understand the paper deeply rather than just superficially.
3. **References (at least 3)** - Reference list for all (at least 3) papers cited in your reviews. If your papers do not satisfy the standard requirements, *you must state when you received written*

approval in your submitted PDF. Make sure to include all the necessary elements of the citation (see course project description). Please see the example *.bib file and the example *.tex paper from the ICML 2021 LaTeX template to understand how to include references in LaTeX.

4. **Page requirement** – For this checkpoint, I am requiring a length (excluding references) of **greater than 2 pages** (note that this means your written content must spill over onto the third page). This forces you to write more in depth. Also, writing is a very important skill for research to communicate your research and can demonstrate clear thinking (or lack thereof). If you cannot write about something, you may not really understand it.

Task 3: Peer Review (due a week after checkpoint due date)

You will be required to do a **peer review other students' checkpoint submission** *and* perform a **self-review** of our own work. This will be due one week after the deadline for checkpoint submission (this should become available on Monday after the due date). The basic rubric for the peer review is given below including the next page. *You are also strongly encouraged to write additional constructive comments to the author.* Politeness is required but constructive feedback is encouraged.

1. [Paper 1] Does the submission summarize the paper and it key contributions in their own words?

0 points	5 points	10 points
Did not include a summary.	Summary is only 3 sentences or less.	Summary is one paragraph or more.

2. [Paper 1] Does the submission contain a critical review?

0 points	5 points	10 points
Did not include review.	Review is only 3 sentences or less.	Review is one paragraph or more.

3. [Paper 2] Does the submission summarize the paper and it key contributions in their own words?

0 points	5 points	10 points
Did not include a summary.	Summary is only 3 sentences or less.	Summary is one paragraph or more.

4. [Paper 2] Does the submission contain a critical review?

0 points	5 points	10 points
Did not include review.	Review is only 3 sentences or less.	Review is one paragraph or more.

5. [Paper 3] Does the submission summarize the paper and it key contributions in their own words?

0 points	5 points	10 points
Did not include summary.	Summary is only 3 sentences or less.	Summary is one paragraph or more.

6. [Paper 3] Does the submission contain a critical review?

0 points	5 points	10 points
Did not include review.	Review is only 3 sentences or less.	Review is one paragraph or more.

7. Did the submission contain 3 appropriate references?

0 points	3 points	5 points	8 points	10 points
Did not include references.	Missing two references.	Missing one reference.	Missing PDF url, title, authors, venue, and/or year in one or more references.	Included all references with all required elements.

8. Does the submission meet the page requirements (EXCLUDING references)?

0 points	5 points	15 points	25 points
Written content is less than half a page.	Written content (excluding references) is one page or less (i.e., does not spill onto second page).	Written content (excluding references) is at least 1 page (i.e., spills onto the 2nd page).	Written content (excluding references) is at least 2 pages (i.e., spills onto the 3rd page).

9. How would you rank the quality of this submission relative to other submissions in the class?

1 point	3 points	5 points
Below average (lower 25%)	Average (25%-75%)	Above average (75%-100%)