

Checkpoint 1 - Preliminary implementation and results

The goal of this checkpoint is for you to make some headway on the implementation effort for the project. You will be required to explain your implementation plan for your project and describe your implementation efforts so far. Ideally, you will have some preliminary results of your implementation.

Note: You are allowed to switch papers or change your implementation plan as much as you want before the final project deliverables. But you will need to turn in something for this checkpoint that satisfies all requirements to receive credit.

You should submit a PDF for peer review to [Circuit](#) that follows the ICML 2023 LaTeX guidelines. overleaf.com is recommended for LaTeX compilation. The structure must follow the template below and the section/paragraph headings should match the template.

Top-level should use `\section{}`, e.g., `\section{Implementation}`
Second-level should use `\section{}`, e.g., `\subsection{Storyline}`
Third-level should use `\paragraph{}`, e.g., `\paragraph{Research Gap}`
[] - notes that should not be included in the PDF.

1) Review of paper to implement or extend (40 points)

a) Storyline (20 points)

[A summary of the whole storyline is usually in the introduction. The storyline puts research into a logical rather than chronological framework. The ideas should flow logically from one to another in a narrative form.]

i) High-level motivation/problem

[What is the larger goal/vision for this research? Or, how could it be useful for accomplishing something larger or more important beyond this particular paper?]

ii) Prior work on this problem

[How has prior research attempted to tackle this problem?]

iii) Research gap

[What is the gap in research, either in knowledge, experiments, theory, etc.?]

iv) Contributions

[What are the main contributions of the paper? Usually, the paper ends the introduction with a summary of contributions.]

b) Proposed solution (10 points)

[How will the paper fill the research gap or answer the research question? What are the key ideas in the paper (e.g., new algorithm, new objective, new theory, new regularization, new perspective, new framework)? At least 1 paragraph + equations/algorithms if helpful.]

c) Claims-Evidence (10 points)

[The experimental results section should have a structure of giving claims and empirical evidence for the claims. Sometimes the evidence is first (e.g., the figure is presented and then interpreted) and sometimes the evidence is second (e.g., a claim/hypothesis is made and then the evidence to support the claim is given). These could be primary claims (usually only 1 or 2 per paper) or subclaims (often at least 2-3).]

i) Claim 1

[e.g., The proposed method is more stable than previous methods.]

ii) Evidence 1

[e.g., Figure 1 shows the convergence behavior of our method is smoother and faster than ___ and ___ baselines.]

iii) Claim 2

[e.g., The proposed method is insensitive to the choice of hyperparameters.]

- iv) Evidence 2
[e.g., Over a wide range of parameter values, the performance change is with 1% of the ideal hyperparameters.]
 - v) Claim 3
 - vi) Evidence 3
 - d) Optional - Critique and Discussion (0 points)
[Will be required in final paper]
- 2) Implementation (60 points, 5 points for overall impression of checkpoint)
- a) Implementation motivation (10 points)
[What do you hope to learn by your implementation? If you are doing new experiments, what will those experiments tell you (if successful)? If you are re-implementing the paper, what do you hope to learn from re-implementation? Or, if you are only (re-)implementing one component, why that component? What do you expect will happen in the experiments?]
 - b) Implementation setup and plan (15 points)
[What is your specific implementation plan? Give concrete experiments. Which code base? Which datasets? Which methods? What will be the series of experiments you will perform? Which evaluation metrics will you use? What code will you reuse? Which code will you write yourself? Also, specify the priority of your implementation efforts. Connect this with your motivation above—i.e., how will this implementation or experimental plan answer the motivating questions above?]
 - c) Preliminary results and interpretation (15 points)
[Provide a result table/figure on your preliminary results and interpret them. Ideally, you would make initial claims and point to the evidence similar to the claim-evidence structure above. If you have the code running but no results, please explain what is running and how you plan to mitigate this in your project. If you do not have any results, you should give an detailed explanation of what you have tried so far, what has happened, and what you plan to do to get it to work.]
 - d) Code snippet (15 points)
[Provide $\frac{3}{4}$ -1 page code snippet in the PDF as a figure (screenshot is fine) showing some part of your implementation efforts. For example, this could be your setup code for re-running the paper's experiments or your implementation of the paper's model/algorithm. This may simply be the setup code including loading the appropriate libraries, preparing the dataset, loading a pretrained model, and evaluating your metric on test data. Please use `\begin{figure*}[!ht]` to create a double-column figure. You can also use `\clearpage` to start a new page before showing your screenshot. Please provide an explanation in the figure caption about what the code is.]

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.

The basic rubric for peer review is given below. Scoring is based on your content as well as your reviews + self-review.

1. [Storyline] Does the submission contain all components of the Storyline section (i.e., high-level problem, prior work, research gap, contributions)?

0 points ✓ Did not include storyline.	5 points ✓ Includes 1 part.	10 points ✓ Includes 2 parts.
15 points ✓ Includes 3 parts.	20 points ✓ Includes all 4 parts.	

2. [Proposed Solution] Does the submission include at least one paragraph on the proposed solution?

0 points ✓ Did not include.	5 points ✓ 3 sentences or less.	10 points ✓ One paragraph or more.
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3. [Claims-Evidence] Does the submission contain 3 claims and 3 corresponding evidence statements?

0 points ✓ Did not include.	3 points ✓ Only 1 claim+evidence.	6 points ✓ Only 2 claims+evidence.
10 points ✓ All 3 claims and all 3 corresponding evidences.		

4. [Implementation motivation] Did the submission include a motivation for the implementation?

0 points ✓ Did not include.	5 points ✓ 3 sentences or less.	10 points ✓ One paragraph or more.
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5. [Implementation setup and plan] Did the submission include the implementation setup and plan?

- | | | |
|---------------------------------------|---|--|
| 0 points ✓
Did not include. | 5 points ✓
3 sentences or less. | 15 points ✓
One paragraph or more. |
|---------------------------------------|---|--|

6. [Preliminary results] Did the paper include preliminary results?

- | | | |
|--|--|---|
| 0 points ✓
Did not include. | 5 points ✓
Could not get the code to run but gave a detailed explanation of what was tried, what happened, and future steps to get it working. | 10 points ✓
Successfully got the code+datasets to run but no results. |
| 15 points ✓
At least some preliminary result included. | | |

7. [Code snippet] Did the submission include a 3/4-1 page

- | | | |
|---------------------------------------|---|---|
| 0 points ✓
Did not include. | 10 points ✓
Included the code snippet but did not include an explanation of the code snippet in the caption or main text. | 15 points ✓
Included a code snippet and explained in the caption and/or main text what was implemented. |
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8. How would you rank the quality of this submission relative to other submissions in the class?

- | | | |
|---|--|--|
| 1 point ✓
Below average (lower 20%) | 3 points ✓
Average (20%-80%) | 5 points ✓
Above average (upper 20%) |
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