**Peer review of “manuscript/project title”**

**Reviewer's name (your name):**

**Author's name:**

**Date reviewed:**

Your review should be free of your “feelings.” Any comment you make, positive or negative, should be backed by concrete observations. Statements such as “Looks good!”, “Nice report!”, “Bad report!” and “Great job!” are *meaningless* (yes, useless!) because they don’t inform the author about what they should retain or change. Your review should be divided into four sections: summary, serious concerns, major comments, and minor comments.

**A. Summary of the project (a few sentences to a paragraph)**

In your own words, summarize the objective of the project. Once again, this summary should be *in your own words* (your impression), not copy-pasted from the author's report. If the project’s objective is unclear to you, reread the report or ask the author. In this section, you can also mention:

* any of your (own, personal) reason/s to like or dislike the project and the report,
* overall strengths and weaknesses of the project, and
* your overall impression of the quality of the work, the project’s relevance, and whether or not the work is complete.

**B. Serious concerns (if any)**

This is the most crucial section in your peer review. You should dedicate most of your time during your review to finding and raising these concerns (if there are any). If you observe any serious concerns with the report, notebook/code, and the overall project, these concerns should be listed in this section as a *numbered* list. These are often the concerns you think the authors won’t be able to address/fix within the review period (usually less than a month). Here are some examples:

1. This project does not meet all the requirements of this phase. The requirement is an image dataset, but the authors have chosen a stock price dataset.
2. The dataset is too easy/challenging. I don't think that this dataset is appropriate for this task.

**C. Major comments**

This section should list all the critical corrections that you think the authors should make in their report or their code/notebook. These are usually big tasks but doable in a week or a few weeks. Most of your technical comments should be included here. If you think the authors should repeat an experiment (rerun their code) or redo their experiments differently, these comments and suggestions should be listed here as a *numbered* list. Following are some of the things you want to check when reviewing other's reports:

1. Are all the performances (accuracy, loss, precision, etc.) reported labeled clearly if the performance is on training or validation set? For example, reporting accuracy without mentioning if it is on the training or validation set needs to be clarified.
2. The report should explain how a random classifier's baseline accuracy was obtained.
3. The more metrics, the better. For example, only using accuracy is not a good practice. Complement accuracy calculation by adding precision or F1 score.
4. Is there a description of how the hyperparameters (epochs, number of neurons, layers, batch size, etc.) were tuned?
5. Do you see any ways the authors could improve the accuracy? If so, you should suggest your ideas.
6. How reproducible do you think the work is? If you have concerns about reproducibility, you should raise this as a concern.
7. Is the selected dataset insufficient to conduct the experiments (i.e., build, train, and test the models)?
8. Are the experiments clearly described?
9. Are the charts/plots/graphs consistent with the data in the tables?
10. Do the results seem plausible?

Here are some example comments:

1. Table 2 needs to clarify if the results are for the training set or validation set; authors should have two separate columns and report findings for both: the training set and validation set.
2. The number of epochs is too less.
3. The author has changed the aspect ratio of all the images in the report. This makes it difficult to interpret the plots.
4. Authors should visualize more images and check for incorrect labels.
5. I could not understand what the author was doing by reading the report because of poor writing. The overall writing/English in the report needs to be improved. Authors should also use Google docs or Grammarly for revising their reports.

**D. Minor comments**

All minor comments should be listed in this section. These include spelling errors, improving table/figure captions, unclear/low-resolution images, images resized to too small/large, unclear project title, missing references, etc.

**Additional Resource (required reading):**

Finally, this 13-minute video lecture on "[Doing a peer-review](https://www.coursera.org/learn/sciwrite/lecture/mu4ZE/6-7-doing-a-peer-review)" from the Coursera course "Writing in the Sciences" is a terrific resource to learn the foundations of peer-reviewing in the sciences. After you have read the tips above, please watch the lecture before you begin writing your next peer review.

**Optional Resources:**

1. If you are seriously interested in the scientific peer-review process, you may find [Table 3](https://link.springer.com/article/10.1007/s00330-020-07324-4/tables/3) in the paper “How to read and review papers on machine learning and artificial intelligence in radiology: a survival guide to key methodological concepts” useful. [Here](https://link.springer.com/article/10.1007/s00330-020-07324-4) is the full paper.
2. If you are reviewing a research manuscript, please read [these slide presentations](https://badriadhikari.github.io/resources/peer_review.pdf) by Dr. Jens Miller, titled “Peer Review of Papers and Proposals – How to Prepare a Constructive, Fair, Unbiased, Effective Review”.