

Speech Understanding

Assignment - 3

Instructions

1. All code needs to be written with Python + PyTorch only.
 2. Create a repository on your Github. Push this Assignment with all of your codes, reports and readme files on that.
 3. You need to submit a single zip file containing the report, codes and readme file. The zip file should be named Rollno PA3.zip.
 4. In the report and the private comment of your submission on Google Classroom, you have to mention the link to your Github repository.
 5. Do cite the libraries/codes/references in the report.
 6. This whole assignment needs to be performed and submitted individually.
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Question 1: Paper Review

You have to select any state-of-the-art speech understanding-related research paper from the year **(2022-2025)**, which is published in the following venues only: **ICLR, ICML, NeurIPS, ICASSP, Interspeech, ACL, EMNLP, TASLP, TACL**. You should fill out the following Google form in order to indicate the choice of the paper. Link to Google form: [link](#) (will be active till 08 April 2025, 11:59 pm)

No two individuals shall select the same paper. It will be based on the first come first serve (FCFS) order. The paper you select **will be approved first** and **if it is approved** then the paper will be **blocked in front of your name** in the following Excel sheet: [link](#). **Then only it will be confirmed that your selected paper has been approved to be used for below mentioned tasks.**

Please note that just filling out the Google form does not guarantee that your paper has been approved. Also, please note that any paper published before 2022 will not be considered a state-of-the-art paper.

The task you have to perform after the paper gets approved:

- I. **Write a review of the approved paper in your own words. Write the following points to write a review:**
 1. Title of the paper
 2. Summary of the paper
 3. Paste a Figure to represent the main architecture (or idea) of the paper (**only one Figure from the paper**)
 4. Strengths of the paper (Write only Technical Strengths)
 5. Weaknesses of the paper (Write only Technical Weaknesses, do not write writing mistakes)

6. Minor Questions/Minor Weakness
7. Suppose you are an actual reviewer:
 - a. Provide a few suggestions as a reviewer to the author to improve the weakness of the paper and how the paper's research idea and claims (if any) can be more strengthened. (**Write within 7-8 lines only**)
 - b. What rating you would give to this paper? Provide the rating with proper justification in **not more than 3 lines**.

II. Bonus Question:

1. Reproduce the results of the paper on any 2 datasets mentioned in the paper.
2. Take any other dataset not used in the paper, and divide it into train and test split. Fine-tune the model with [DoRA](#) and show results on the test set of the chosen dataset, as well as on the 2 datasets you have used in the above part in II(i).

Note: For all tasks, the use of any LLM is strictly prohibited, if any report is caught in which LLM has been used to write a review, that student will be straight away given 0 Marks.