CS/SE 4AL3:
Final Project Report

Fall 2025
Due: December 4th

1 Overview

For the final project report, your team should now have an implementation of a solution for your proposed problem along with several comparable experiments and analysis. The items you should include in the report are detailed in the following section. Use the template from your progress report and amend it to create the final report. You can remove the section on the feedback and plans and add sections for the progress and error analysis while editing the other sections. Note that there is some flexibility if, e.g. you have more to say about preprocessing and less about motivation. This is quite similar to your progress report, using the same template, but extending it to include further analysis and results. There are many ways to fill these pages to show you have put the necessary effort into the final project. You could, for instance, focus more on feature engineering, or trying different model architectures. You could try different data augmentation techniques, methods for regularization, ensembles, or embeddings. If you are not sure your intended work constitutes enough work for the final submission, please check with your TAs during the tutorial sessions or consult with us on Teams.

2 Report

Your complete project must now include the following items. The format of the report will be a PDF document which includes the following items.

1. (10%) **Introduction** Your report should have an introduction. You may largely copy the motivation and problem description from your previous reports. Write about previous work on your task or the most related task you can find. Note that you should include at least **7** references in your report. Did you discover anything in related work that influenced your direction after the progress report was due? References should be integrated as part of the discussion of the context of your work. They should not simply be listed as a set of relevant papers with no explanation.

2. (5%) **Dataset** You should describe the dataset properties and any preprocessing operations you performed. If you are annotating data yourself, describe the annotation procedure you developed and followed. Describe any changes you made to the dataset in a subsection if you have changed your dataset since the progress report. Some of you found that your dataset was too difficult or too easy. What did you have to change about your data? Did you have to augment the data or move to a completely new source? If your dataset did not change, it is reasonable to leave this mostly as is from the progress report.

3. (5%) **Features and Inputs** Describe your model inputs. What feature engineering or representation learning was performed? Why did you add these features? Why does it make sense to include them? Did you perform any feature selection or augmentation? One good way to vary your experiments is to try different kinds of features as inputs. How did you vary the features used for your experiments?

4. (20%) **Implementation** Describe the model implementation. You should have several models or versions of your model that you have run on your data. You should have a simple baseline to compare it to (likely majority vote), and may have other baselines from related work. Your model should outperform your simple baseline. For most of you, your model should also outperform at least one other trained model baseline. If it does not outperform this baseline and you expected it to, why doesn't it? You should be able to provide an explanation. This explanation can also be part of your error analysis section. You do not have to

outperform all models from previous work, but you should have an approach you implement for comparison. What was your loss function? Describe the optimization technique. If you implemented a complex model with many parts, you should consider providing ablations. This means different experiments where you only include one feature at a time so you can tell what feature is contributing more to the performance that you see.

5. (15%) **Evaluation** Describe the evaluation strategy. What are your train/validation/test splits (size and label distributions)? Are you using cross-validation? What metrics are you using for evaluation? Did you find that your metrics from the progress report stage were adequate?

6. (10%) **Progress** Reflect on your plan from your progress report. Did you follow-through on your plan? Did your plan change course? Why?

7. (20%) **Error Analysis** Describe how you systematically examine the errors your model makes and provide supporting figures, stats, examples (e.g., confusion matrices, qualitative sample of test cases with high error margins, etc). What does your model appear to be good at? What does it seem to be bad at? How does the performance of your models differ? What patterns do you notice in the errors your model seems to make? What do you think you could do to specifically address those issues if you were to continue working on this model?

8. (5%) **Team Contributions** Fill in the section about team contributions with a few sentences describing what each team member contributed. Please write at least one sentence per team member to describe what they contributed to and do not simply write "all members contributed equally".

3 Deliverables

You DO NOT need to get any approval before submitting this report. You should submit your written final report, data, and code to A2L. Zip these files (zip, tar, gz are OK). If your dataset is over 50MB, please instead link to the data source or an external repository.

4 Requirements

You will be assessed based on the completion of the above requirements. Your report should contain all the required items with sufficient detail. The report should follow the provided LaTeX template formatting with at least 6 pages of content not including graphs and tables. In other words, if you include a graph, try to make up for that space in the length of the document by writing onto the next page. We won't be very strict about this, we just want to avoid the case where, e.g. someone submits a 6 page report and one whole page has images and no text. You can include extra LaTeX packages, but you should not significantly change the formatting of the provided template.