CS4375 Assignment 2

`FULL_GITHUB_REPOSITORY_URL`

Full Name
Net ID

TODO: Fill in your name and details above. If not filled correctly, we will subtract 2pt.

TODO: It is highly suggested to use the template for reports. You are free to use other softwares (e.g. Microsoft Word, Google Doc), but we prefer you follow the structure below.

1 Introduction and Data (5pt)

TODO: Briefly describe the project and your main experiments and results, including mentioning the data you use.

TODO: Briefly describe task and data (e.g. how many examples are in the training, development, and test sets.), it is best to report all the statistics, including counts, in a table. including how you treat casing, tokenization, and anything else that you did to the raw data before computing features from it.

2 Implementations (45pt)

2.1 FFNN (20pt)

TODO: Explain briefly how you implemented filled in the incomplete code for `FFNN.py` in the form of screenshot (and explanations) in the report. Provide any other libraries/tools that are used; tutorials/materials that you referred to; or how you were doing debugging. Try to understand what other part of the code is doing, and write your understandings here (e.g. optimizers, initializations, stopping, etc.)

2.2 RNN (25pt)

TODO: Explain briefly how you implemented filled in the incomplete code for `RNN.py` in the form of code-snippet screenshot (and explanations) in the report. Provide any other libraries/tools that are used; and tutorials/materials that you referred to. Try to understand what other part of the code is doing, and write your understandings here (especially parts that is functioning differently as compared to FFNN).

3 Experiments and Results (25pt)

Evaluations (5pt) **TODO:** Explain how you evaluate the models. What metric is used – you can refer to the current implementation.

Results (20pt) **TODO:** Apart from the default hyperparameters, try multiple variations (between 1-2 for FFNN and RNN each) of models by changing hidden unit sizes.

TODO: Summarize the performance of your system and Put the results into tables or diagrams and include your observations and analysis.

TODO: (Extra Bonus), try other variations of the model by changing the default code and report resutls, e.g. you can try different number of layers, initializations, etc.

4 Analysis (20pt)

TODO:

- (10pt) Plot the learning curve of your best system. The curve should include the training loss and development set accuracy by epoch.
- (10pt) Error analysis. List some (one or more than one) error examples and provide some analysis. How might you improve the system?
- (Extra Bonus) other analysis and discussions.

5 Conclusion and Others (5pt)

TODO:

- Individual member contribution.
- Feedback for the assignment. e.g., time spent, difficulty, and how we can improve.