R001_Fall_2023_AI_Reproducibility – Context Labelling

Instructions for setting up the development environment

1. You may use Jupyter Notebook (recommended)/Google Colab with any Python 3.8+ stable environment.
2. Clone the below repository.
   https://github.com/lamps-lab/ai-reproducibility
3. required folder structure.

```
Citing_Paper_contexts
        |---------- RS_001_MLRC_2022_01.json
        |---------- …
        |---------- RS_149_ICDAR_2018_16.json
citation_context_counts_for_cited_papers.json
R001_Citation_Context_Labelling_Shared.ipynb
```

Instructions for using jupyter notebook

1. Locate the directory where folder structure is set up
2. Run the jupyter notebook "R001_Citation_Context_Labelling_Shared.ipynb"
3. when interruptions occur - look for the "temp_labelling.json" file within the *"Citing_Paper_contexts_lables"* folder for backup of the current working file

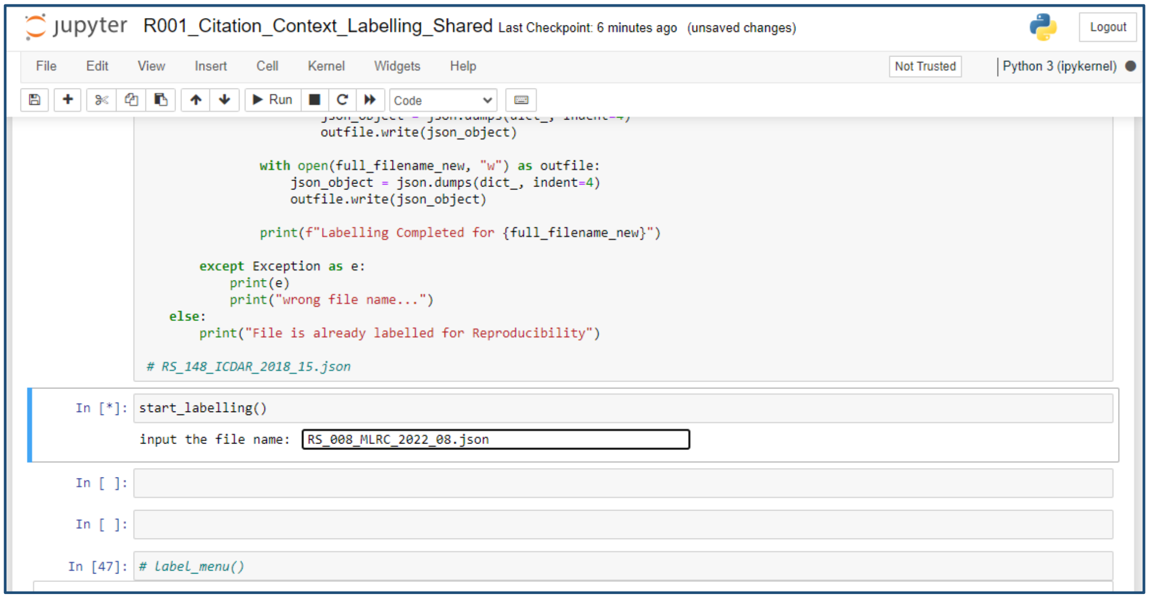
Instructions for labelling

1. Run all the cells up to the **`start_labelling()`** cell
2. Enter a .json filename from the list **`available_files_for_labelling`** (ex: *RS_148_ICDAR_2018_15.json*)
3. use one of the five values (-2, -1, 0, 0.5, 1) as the input label score
4. use the below guideline when choosing the label score.

Score	Label	Definition	Example
1	Strong	Containing words or phrases that indicate an effort to reproduce, replicate, or repeat the experiments or obtain consistent, quantitative, or qualitative results	We present a replication study of BERT pretraining (Devlin et al., 2019), which includes a careful evaluation of the effects of hyperparameter tuning and training set size.
0.5	Weak	The software was used for preprocessing or comparison, but it is unclear whether an at- tempt to reproduce results was conducted	We investigated open information extraction methods such as REVERB (Fader et al., 2011) and OLLIE (Mausam et al., 2012).
0	Neutral	Simply mentioning the cited paper without any attempts to run the implementation or verify the results	Pre-training methods that learn directly from raw text have revolutionized NLP over the last few years (Devlin et al., 2018).
-1	P-NR	An unsuccessful attempt to redo the experiments due to the unavailability of resources - Process not reproducible	Dataset source or location was not provided in [38].
-2	O-NR	An unsuccessful attempt to reproduce the reported results - Outcome not reproducible	Because we could not obtain the same F1-score using the code provided, [10]...

Example Screenshots

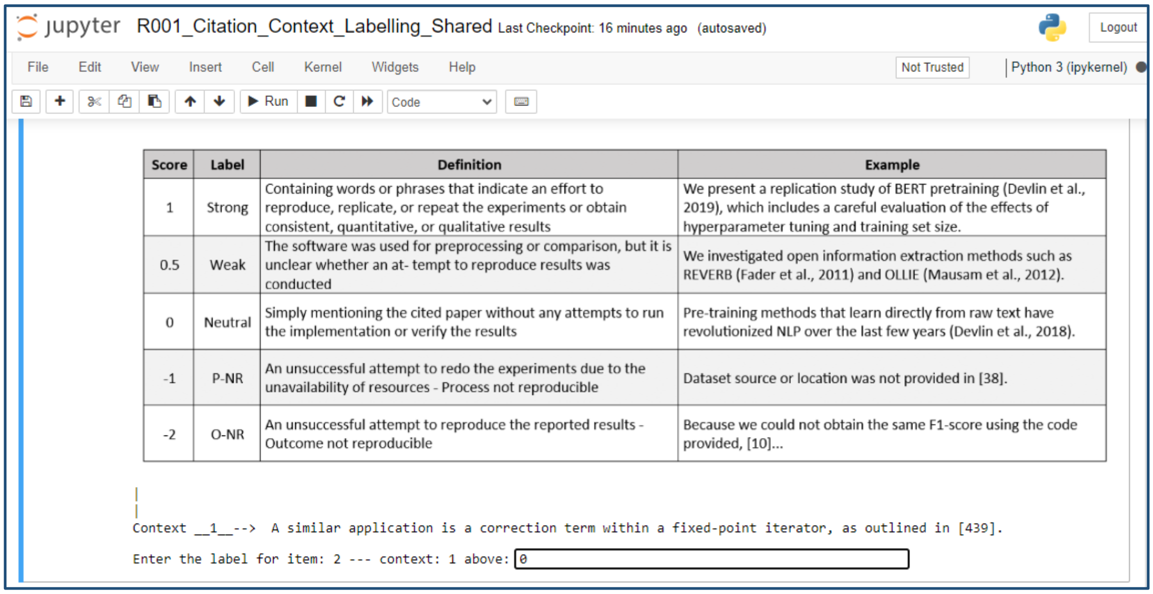
Screenshot 01: Input a file name for labelling


jupyter R001_Citation_Context_Labelling_Shared Last Checkpoint: 6 minutes ago (unsaved changes)
Logout
File Edit View Insert Cell Kernel Widgets Help
Not Trusted
Python 3 (ipykernel)
Run
Code

```
                    json_object = json.dumps(dict_, indent=4)
                    outfile.write(json_object)

                with open(full_filename_new, "w") as outfile:
                    json_object = json.dumps(dict_, indent=4)
                    outfile.write(json_object)

                print(f"Labelling Completed for {full_filename_new}")

        except Exception as e:
            print(e)
            print("wrong file name...")
    else:
        print("File is already labelled for Reproducibility")

# RS_148_ICDAR_2018_15.json
```

```
In [*]: start_labelling()

        input the file name: RS_008_MLRC_2022_08.json

In [ ]:

In [ ]:

In [47]: # label_menu()
```

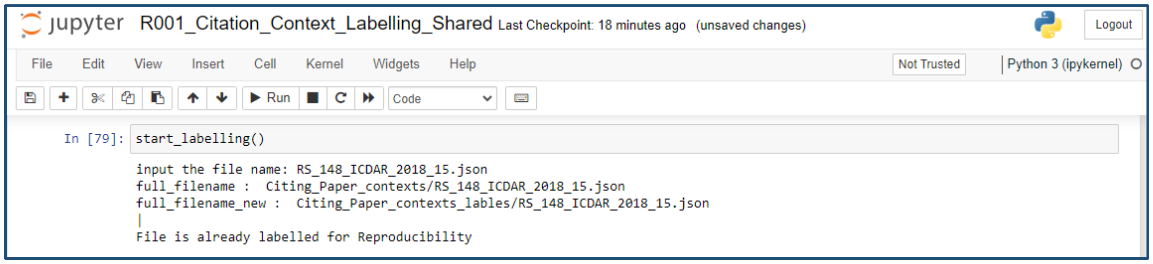
Screenshot 02: Input a label score for a single citation context


jupyter R001_Citation_Context_Labelling_Shared Last Checkpoint: 16 minutes ago (autosaved)
Logout
File Edit View Insert Cell Kernel Widgets Help
Not Trusted
Python 3 (ipykernel)
Run
Code

Score	Label	Definition	Example
1	Strong	Containing words or phrases that indicate an effort to reproduce, replicate, or repeat the experiments or obtain consistent, quantitative, or qualitative results	We present a replication study of BERT pretraining (Devlin et al., 2019), which includes a careful evaluation of the effects of hyperparameter tuning and training set size.
0.5	Weak	The software was used for preprocessing or comparison, but it is unclear whether an at- tempt to reproduce results was conducted	We investigated open information extraction methods such as REVERB (Fader et al., 2011) and OLLIE (Mausam et al., 2012).
0	Neutral	Simply mentioning the cited paper without any attempts to run the implementation or verify the results	Pre-training methods that learn directly from raw text have revolutionized NLP over the last few years (Devlin et al., 2018).
-1	P-NR	An unsuccessful attempt to redo the experiments due to the unavailability of resources - Process not reproducible	Dataset source or location was not provided in [38].
-2	O-NR	An unsuccessful attempt to reproduce the reported results - Outcome not reproducible	Because we could not obtain the same F1-score using the code provided, [10]...

```
|
|
Context __1__-->  A similar application is a correction term within a fixed-point iterator, as outlined in [439].

Enter the label for item: 2 --- context: 1 above: 0
```

Screenshot 03: Ignoring already labelled files


jupyter R001_Citation_Context_Labelling_Shared Last Checkpoint: 18 minutes ago (unsaved changes)
Logout
File Edit View Insert Cell Kernel Widgets Help
Not Trusted
Python 3 (ipykernel)
Run
Code

```
In [79]: start_labelling()

         input the file name: RS_148_ICDAR_2018_15.json
         full_filename :  Citing_Paper_contexts/RS_148_ICDAR_2018_15.json
         full_filename_new :  Citing_Paper_contexts_lables/RS_148_ICDAR_2018_15.json
         |
         File is already labelled for Reproducibility
```