


## ✓ Sentiment Analysis


```
import pandas as pd
```

```
splits = {'train': 'train_df.csv', 'validation': 'val_df.csv', 'test': 'test_df.csv'}
dataframes = []
for split, filename in splits.items():
    if filename != 'val_df.csv':
        df = pd.read_csv(f'hf://datasets/Sp1786/multiclass-sentiment-analysis-dataset/{filename}')
        df.drop(['id', 'label'], axis=1, inplace=True)
        dataframes.append(df)
    else:
        test_df = pd.read_csv(f'hf://datasets/Sp1786/multiclass-sentiment-analysis-dataset/{filename}')
        test_df.drop(['id', 'label'], axis=1, inplace=True)
train_df = pd.concat(dataframes)
train_df = train_df.dropna()
```

 /usr/local/lib/python3.11/dist-packages/huggingface\_hub/utils/\_auth.py:94: UserWarning:  
The secret `HF\_TOKEN` does not exist in your Colab secrets.  
To authenticate with the Hugging Face Hub, create a token in your settings tab (<https://huggingface.co/settings/tokens>),  
You will be able to reuse this secret in all of your notebooks.  
Please note that authentication is recommended but still optional to access public models or datasets.  
warnings.warn()

```
print(train_df.head())
print(test_df.head())
```

```
print(len(train_df))
print(len(test_df))
```



	text	sentiment
0	Cooking microwave pizzas, yummy	positive
1	Any plans of allowing sub tasks to show up in ...	neutral
2	I love the humor, I just reworded it. Like sa...	positive
3	naw idk what ur talkin about	neutral
4	That sucks to hear. I hate days like that	negative

	text	sentiment
0	Laying in bed til workkk... Oh the life. Defin...	negative
1	ooohhh imma need you to get on that asap love...	positive
2	Thanks! I love it they have a video, so you d...	positive
3	I left my ipod in the car so now its all warm.	positive
4	Great app. Only complaint is that I'd like the...	positive

  
36437  
5205

## ✓ Train the Model

```
!pip install simpletransformers
```



```

Requirement already satisfied: yarl<4.0,>=1.17.0 in /usr/local/lib/python3.11/dist-packages (from aiohttp->datasets->sum
Requirement already satisfied: gitdb<5,>=4.0.1 in /usr/local/lib/python3.11/dist-packages (from gitpython!=3.1.29,>=1.0.
Requirement already satisfied: annotated-types>=0.6.0 in /usr/local/lib/python3.11/dist-packages (from pydantic<3->wandb
Requirement already satisfied: pydantic-core==2.33.2 in /usr/local/lib/python3.11/dist-packages (from pydantic<3->wandb
Requirement already satisfied: typing-inspection>=0.4.0 in /usr/local/lib/python3.11/dist-packages (from pydantic<3->wan
Requirement already satisfied: MarkupSafe>=2.1.1 in /usr/local/lib/python3.11/dist-packages (from werkzeug>=1.0.1->tenso
Requirement already satisfied: smmap<6,>=3.0.1 in /usr/local/lib/python3.11/dist-packages (from gitdb<5,>=4.0.1->gitpyth
Requirement already satisfied: jsonschema-specifications>=2023.03.6 in /usr/local/lib/python3.11/dist-packages (from jso
Requirement already satisfied: referencing>=0.28.4 in /usr/local/lib/python3.11/dist-packages (from jsonschema>=3.0->alt
Requirement already satisfied: rpds-py>=0.7.1 in /usr/local/lib/python3.11/dist-packages (from jsonschema>=3.0->altair<6
Downloading simpletransformers-0.70.1-py3-none-any.whl (316 kB)
 316.3/316.3 kB 18.1 MB/s eta 0:00:00
Downloading streamlit-1.45.1-py3-none-any.whl (9.9 MB)
 9.9/9.9 MB 123.2 MB/s eta 0:00:00
Downloading tensorboardX-2.6.2.2-py2.py3-none-any.whl (101 kB)
 101.7/101.7 kB 11.3 MB/s eta 0:00:00
Downloading pydeck-0.9.1-py2.py3-none-any.whl (6.9 MB)
 6.9/6.9 MB 123.0 MB/s eta 0:00:00
Downloading watchdog-6.0.0-py3-none-manylinux2014_x86_64.whl (79 kB)
 79.1/79.1 kB 9.0 MB/s eta 0:00:00
Building wheels for collected packages: sequeval
  Building wheel for sequeval (setup.py) ... done
  Created wheel for sequeval: filename=sequeval-1.2.2-py3-none-any.whl size=16162 sha256=5718ce52af4fbff383e001ed5acb75fee
  Stored in directory: /root/.cache/pip/wheels/bc/92/f0/243288f899c2eacd5f9aede4c71a9bad0ee26a01dc5ead
Successfully built sequeval
Installing collected packages: watchdog, tensorboardx, pydeck, sequeval, streamlit, simpletransformers
Successfully installed pydeck-0.9.1 sequeval-1.2.2 simpletransformers-0.70.1 streamlit-1.45.1 tensorboardx-2.6.2.2 watchd

from simpletransformers.classification import ClassificationModel, ClassificationArgs

model_args = ClassificationArgs()

model_args.overwrite_output_dir=True
model_args.evaluate_during_training=True
model_args.no_save = True

model_args.max_seq_length=256
model_args.use_early_stopping=True
model_args.early_stopping_delta=0.01
model_args.early_stopping_metric='eval_loss'
model_args.early_stopping_metric_minimize=True
model_args.early_stopping_patience=2
model_args.evaluate_during_training_steps=32
model_args.reprocess_input_data=True
model_args.manual_seed=4
model_args.use_multiprocessing=True
model_args.labels_list=["neutral", "positive", "negative"]
model_args.wandb_project="Sentiment-Analysis-Sweep"

import wandb

def train_model():
    wandb.init()
    model = ClassificationModel("roberta", "roberta-base", num_labels=3, args=model_args, use_cuda=True, sweep_config=wandb.cc
    model.train_model(train_df, eval_df=test_df)

wandb.login()

sweep_configuration = {
    "method": "grid",
    "metric": {"goal": "minimize", "name": "eval_loss"},
    "parameters": {
        "train_epochs": {"values": [8, 10, 12, 16]},
        "train_batch_size": {"values": [16, 32, 64]},
        "learning_rate": {"values": [1e-6, 5e-5, 1e-5, 5e-4]},
    }
}

sweep_id = input("Please enter an existing sweep id if you want to continue an existing sweep (leave blank for a new sweep):
sweep_id = None if sweep_id == "" else sweep_id

if sweep_id is None:
    sweep_id = wandb.sweep(sweep=sweep_configuration, project="Sentiment-Analysis-Sweep")

wandb.agent(sweep_id, function=train_model, project='Sentiment-Analysis-Sweep')

```

```

wandb: Logging into wandb.ai. (Learn how to deploy a W&B server locally: https://wandb.me/wandb-server)
wandb: You can find your API key in your browser here: https://wandb.ai/authorize
wandb: Paste an API key from your profile and hit enter: .....
wandb: WARNING If you're specifying your api key in code, ensure this code is not shared publicly.
wandb: WARNING Consider setting the WANDB_API_KEY environment variable, or running `wandb login` from the command line.
wandb: No netrc file found, creating one.
wandb: Appending key for api.wandb.ai to your netrc file: /root/.netrc
wandb: Currently logged in as: simonas-mickus (d3dsec) to https://api.wandb.ai. Use `wandb login --relogin` to force rel
Please enter an existing sweep id if you want to continue an existing sweep (leave blank for a new sweep): 2qk2z5y6
wandb: Agent Starting Run: ig4bf2fu with config:
wandb:   learning_rate: 1e-05
wandb:   train_batch_size: 64
wandb:   train_epochs: 12
Tracking run with wandb version 0.19.11
Run data is saved locally in /content/wandb/run-20250531_162224-ig4bf2fu
Syncing run scarlet-sweep-35 to Weights & Biases \(docs\)
Sweep page: https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/sweeps/2qk2z5y6
View project at https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep
View sweep at https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/sweeps/2qk2z5y6
View run at https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/runs/ig4bf2fu

config.json: 100%                               481/481 [00:00<00:00, 43.1kB/s]

Xet Storage is enabled for this repo, but the 'hf_xet' package is not installed. Falling back to regular HTTP download.
WARNING:huggingface_hub.file_download:Xet Storage is enabled for this repo, but the 'hf_xet' package is not installed. F
model.safetensors: 100%                         499M/499M [00:03<00:00, 54.7MB/s]

Some weights of RobertaForSequenceClassification were not initialized from the model checkpoint at roberta-base and are
You should probably TRAIN this model on a down-stream task to be able to use it for predictions and inference.

tokenizer_config.json: 100%                     25.0/25.0 [00:00<00:00, 2.17kB/s]

vocab.json: 100%                               899k/899k [00:00<00:00, 3.62MB/s]

merges.txt: 100%                               456k/456k [00:00<00:00, 2.80MB/s]

tokenizer.json: 100%                           1.36M/1.36M [00:00<00:00, 4.16MB/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:610: UserWarning: Data
warnings.warn(

73/? [00:34<00:00, 3.17it/s]

Epoch 1 of 1: 0%                               0/1 [08:04<?, ?it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:882: FutureWarning: `t
scaler = amp GradScaler()

Epochs 1/1. Running Loss: 0.6134: 67%          383/570 [08:04<02:03, 1.51it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:08<00:00, 1.73it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:04<00:00, 2.67it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:05<00:00, 3.03it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
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/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:04<00:00, 3.27it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:04<00:00, 2.72it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:03<00:00, 3.62it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `

```

```

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning:
  with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
  with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
  warnings.warn(

11/? [00:04<00:00, 2.54it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
  with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
  with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
  warnings.warn(

11/? [00:03<00:00, 4.07it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
  with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
  with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
  warnings.warn(

11/? [00:08<00:00, 1.58it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
  with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
  with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
  warnings.warn(

11/? [00:05<00:00, 1.86it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
  with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
  with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
  warnings.warn(

11/? [00:03<00:00, 2.89it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
  with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
  with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
  warnings.warn(

11/? [00:06<00:00, 2.74it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
  with amp.autocast():

```

### Run history:



### Run summary:

Training loss 0.7359  
 eval\_loss 0.59244  
 global\_step 384  
 lr 0.0  
 mcc 0.63079  
 train\_loss 0.61342

View run **scarlet-sweep-35** at: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/runs/ig4bf2fu>

View project at: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep>

Synced 5 W&B file(s), 0 media file(s), 0 artifact file(s) and 0 other file(s)

Find logs at: [./wandb/run-20250531\\_162224-ig4bf2fu/logs](https://wandb.ai/run-20250531_162224-ig4bf2fu/logs)

**wandb:** Agent Starting Run: w3t3r4f1 with config:

**wandb:** learning\_rate: 0.0005

**wandb:** train\_batch\_size: 16

**wandb:** train\_epochs: 10

Tracking run with wandb version 0.19.11

Run data is saved locally in [/content/wandb/run-20250531\\_163119-w3t3r4f1](https://wandb.ai/run-20250531_163119-w3t3r4f1)

Syncing run **fluent-sweep-38** to [Weights & Biases \(docs\)](https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/sweeps/2qk2z5y6)

Sweep page: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/sweeps/2qk2z5y6>

View project at <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep>

View sweep at <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/sweeps/2qk2z5y6>

View run at <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/runs/w3t3r4f1>

Some weights of RobertaForSequenceClassification were not initialized from the model checkpoint at roberta-base and are

```

You should probably IKAIN this model on a down-stream task to be able to use it for predictions and inference.
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:610: UserWarning: Data
warnings.warn(

73/? [00:26<00:00, 3.47it/s]

Epoch 1 of 1: 0%                                0/1 [02:37<?, ?it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:882: FutureWarning: `t
scaler = amp.GradScaler()

Epochs 1/1. Running Loss: 1.0359: 8%           191/2278 [02:37<07:10, 4.84it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:05<00:00, 2.04it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:04<00:00, 3.17it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:04<00:00, 2.39it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

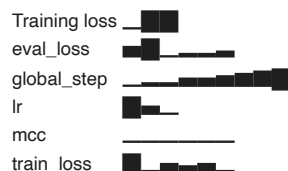
11/? [00:04<00:00, 3.37it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:04<00:00, 2.99it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:04<00:00, 3.19it/s]
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():

```

### Run history:



### Run summary:

```

Training loss 1.10455
eval_loss 1.13222
global_step 192
lr 0.00047
mcc 0
train_loss 1.03592

```

View run **fluent-sweep-38** at: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/runs/w3t3r4f1>  
View project at: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep>  
Synced 5 W&B file(s), 0 media file(s), 0 artifact file(s) and 0 other file(s)  
Find logs at: ./wandb/run-20250531\_163119-w3t3r4f1/logs  
**wandb:** Agent Starting Run: 1msqc851 with config:  
**wandb:** learning\_rate: 0.0005  
**wandb:** train\_batch\_size: 16  
**wandb:** train\_epochs: 16

```

wandb: train_steps: 20
Tracking run with wandb version 0.19.11
Run data is saved locally in /content/wandb/run-20250531_163431-1msqc851
Syncing run icy-sweep-40 to Weights & Biases \(docs\)
Sweep page: https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/sweeps/2qk2z5y6
View project at https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep
View sweep at https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/sweeps/2qk2z5y6
View run at https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/runs/1msqc851
Some weights of RobertaForSequenceClassification were not initialized from the model checkpoint at roberta-base and are
You should probably TRAIN this model on a down-stream task to be able to use it for predictions and inference.
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:610: UserWarning: Data
warnings.warn(

73/? [00:37<00:00, 2.10it/s]

Epoch 1 of 1: 0%                                0/1 [02:41<?, ?it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:882: FutureWarning: `t
scaler = amp GradScaler()

Epochs 1/1. Running Loss: 1.0359: 8%                                191/2278 [02:41<07:07, 4.88it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:05<00:00, 2.40it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:06<00:00, 1.49it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:05<00:00, 2.71it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:04<00:00, 3.35it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:04<00:00, 2.89it/s]

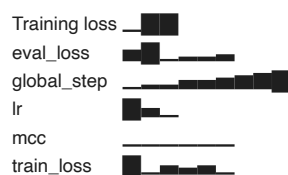
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

11/? [00:04<00:00, 3.03it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():

```

### Run history:



### Run summary:

```

Training loss 1.10455
eval_loss 1.13222
global_step 192
lr 0.00047
mcc 0
train_loss 1.03592

```



View run **icy-sweep-40** at: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/runs/1msqc851>  
 View project at: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep>  
 Synced 5 W&B file(s), 0 media file(s), 0 artifact file(s) and 0 other file(s)  
 Find logs at: ./wandb/run-20250531\_163431-1msqc851/logs  
**wandb**: Agent Starting Run: jz01k47o with config:  
**wandb**: learning\_rate: 0.0005  
**wandb**: train\_batch\_size: 32  
**wandb**: train\_epochs: 12  
 Tracking run with wandb version 0.19.11  
 Run data is saved locally in /content/wandb/run-20250531\_163756-jz01k47o  
 Syncing run **absurd-sweep-43** to [Weights & Biases \(docs\)](#)  
 Sweep page: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/sweeps/2qk2z5y6>  
 View project at <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep>  
 View sweep at <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/sweeps/2qk2z5y6>  
 View run at <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/runs/jz01k47o>  
 Some weights of RobertaForSequenceClassification were not initialized from the model checkpoint at roberta-base and are  
 You should probably TRAIN this model on a down-stream task to be able to use it for predictions and inference.  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:610: UserWarning: Data  
 warnings.warn(  
 73/? [00:33<00:00, 1.66it/s]  
 Epoch 1 of 1: 0% 0/1 [03:44<?, ?it/s]  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:882: FutureWarning: `t  
 scaler = amp GradScaler()  
 Epochs 1/1. Running Loss: 1.0797: 20% 223/1139 [03:43<05:20, 2.86it/s]  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:905: FutureWarning: `t  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1453: UserWarning: Dat  
 warnings.warn(  
 11/? [00:12<00:00, 1.25it/s]  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1505: FutureWarning: `  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:905: FutureWarning: `t  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1453: UserWarning: Dat  
 warnings.warn(  
 11/? [00:03<00:00, 3.67it/s]  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1505: FutureWarning: `  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:905: FutureWarning: `t  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1453: UserWarning: Dat  
 warnings.warn(  
 11/? [00:03<00:00, 3.57it/s]  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1505: FutureWarning: `  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:905: FutureWarning: `t  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1453: UserWarning: Dat  
 warnings.warn(  
 11/? [00:05<00:00, 2.41it/s]  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1505: FutureWarning: `  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:905: FutureWarning: `t  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1453: UserWarning: Dat  
 warnings.warn(  
 11/? [00:04<00:00, 3.19it/s]  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1505: FutureWarning: `  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:905: FutureWarning: `t  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1453: UserWarning: Dat  
 warnings.warn(  
 11/? [00:04<00:00, 3.09it/s]  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1505: FutureWarning: `  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:905: FutureWarning: `t  
 with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1453: UserWarning: Dat  
 warnings.warn(  
 11/? [00:04<00:00, 3.04it/s]  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1505: FutureWarning: `  
 with amp.autocast():

**Run history:**

Training loss   
 eval\_loss 



### Run summary:

Training loss 1.10066  
 eval\_loss 1.11805  
 global\_step 224  
 lr 0.00043  
 mcc 0  
 train\_loss 1.07967

View run **absurd-sweep-43** at: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/runs/jz01k47o>

View project at: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep>

Synced 5 W&B file(s), 0 media file(s), 0 artifact file(s) and 0 other file(s)

Find logs at: ./wandb/run-20250531\_163756-jz01k47o/logs

**wandb:** Agent Starting Run: 3d7swm13 with config:

**wandb:** learning\_rate: 0.0005

**wandb:** train\_batch\_size: 64

**wandb:** train\_epochs: 16

Tracking run with wandb version 0.19.11

Run data is saved locally in /content/wandb/run-20250531\_164223-3d7swm13

Syncing run **deep-sweep-48** to [Weights & Biases \(docs\)](#)

Sweep page: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/sweeps/2qk2z5y6>

View project at <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep>

View sweep at <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/sweeps/2qk2z5y6>

View run at <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/runs/3d7swm13>

Some weights of RobertaForSequenceClassification were not initialized from the model checkpoint at roberta-base and are You should probably TRAIN this model on a down-stream task to be able to use it for predictions and inference.

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:610: UserWarning: Data warnings.warn(  
 73/? [00:30<00:00, 3.07it/s]

Epoch 1 of 1: 0% 0/1 [03:18<?, ?it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:882: FutureWarning: `t scaler = amp.GradScaler()`

Epochs 1/1. Running Loss: 1.1029: 28% 159/570 [03:18<04:18, 1.59it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:905: FutureWarning: `t with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1453: UserWarning: Dat warnings.warn(  
 11/? [00:05<00:00, 3.06it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1505: FutureWarning: ` with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:905: FutureWarning: `t with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1453: UserWarning: Dat warnings.warn(  
 11/? [00:03<00:00, 3.45it/s]

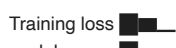
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1505: FutureWarning: ` with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:905: FutureWarning: `t with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1453: UserWarning: Dat warnings.warn(  
 11/? [00:04<00:00, 2.91it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1505: FutureWarning: ` with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:905: FutureWarning: `t with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1453: UserWarning: Dat warnings.warn(  
 11/? [00:04<00:00, 3.17it/s]

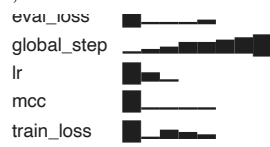
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1505: FutureWarning: ` with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:905: FutureWarning: `t with amp.autocast():  
 /usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1453: UserWarning: Dat warnings.warn(  
 11/? [00:04<00:00, 2.45it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification\_model.py:1505: FutureWarning: ` with amp.autocast():

### Run history:





**Run summary:**

Training loss 1.07015  
eval\_loss 1.10271  
global\_step 160  
lr 0.00039  
mcc 0  
train\_loss 1.10291

View run **deep-sweep-48** at: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep/runs/3d7swm13>

View project at: <https://wandb.ai/d3dsec/Sentiment-Analysis-Sweep>

Synced 5 W&B file(s), 0 media file(s), 0 artifact file(s) and 0 other file(s)

Find logs at: ./wandb/run-20250531\_164223-3d7swm13/logs

**wandb**: Sweep Agent: Waiting for job.

**wandb**: Sweep Agent: Exiting.

```

best_model_args = ClassificationArgs()

best_model_args.override_output_dir=True
best_model_args.evaluate_during_training=True
best_model_args.no_save = True

best_model_args.max_seq_length=256
best_model_args.use_early_stopping=True
best_model_args.early_stopping_delta=0.01
best_model_args.early_stopping_metric='eval_loss'
best_model_args.early_stopping_metric_minimize=True
best_model_args.early_stopping_patience=2
best_model_args.evaluate_during_training_steps=32
best_model_args.reprocess_input_data=True
best_model_args.manual_seed=25
best_model_args.use_multiprocessing=True
best_model_args.labels_list=["neutral", "positive", "negative"]

eval_df = pd.read_csv('./sentiment-topic-test.tsv', sep='\t')
eval_df = eval_df.dropna()
eval_df.drop(['sentence_id', 'topic'], axis=1, inplace=True)
eval_df.columns = ['text', 'sentiment']
print(eval_df.head())

best_model_args.num_train_epochs=16
best_model_args.train_batch_size=64
best_model_args.learning_rate=5e-5

best_model = ClassificationModel("roberta", "roberta-base", num_labels=3, args=best_model_args, use_cuda=True)

```

```

↗
0    The stadium was alive with the roar of the cro...  positive
1    That last-minute goal had me jumping out of my...  positive
2    I couldn't put the book down; it swept me into...  positive
3    The story had its moments, though some parts f...  neutral
4    I enjoyed the way the timelines shifted, even ...  neutral
Some weights of RobertaForSequenceClassification were not initialized from the model checkpoint at roberta-base and are
You should probably TRAIN this model on a down-stream task to be able to use it for predictions and inference.

```

```
best_model.train_model(pd.concat([train_df, test_df]), eval_df=eval_df)
```

```

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:610: UserWarning: Data
warnings.warn(

84/? [00:36<00:00, 3.41it/s]

Epoch 1 of 16: 0%                                0/16 [03:23<?, ?it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:882: FutureWarning: `t
scaler = amp.GradScaler()

Epochs 1/16. Running Loss: 0.8013: 49%                                319/651 [03:23<03:28, 1.59it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

1/0 [00:00<00:00, 3.24it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

1/0 [00:00<00:00, 3.70it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

1/0 [00:00<00:00, 3.69it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

1/0 [00:00<00:00, 2.66it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

1/0 [00:00<00:00, 3.69it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

1/0 [00:00<00:00, 3.80it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat
warnings.warn(

1/0 [00:00<00:00, 2.57it/s]

/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1505: FutureWarning: `
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:905: FutureWarning: `t
with amp.autocast():
/usr/local/lib/python3.11/dist-packages/simpletransformers/classification/classification_model.py:1453: UserWarning: Dat

```