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**25244**

**ROBERTA-BASE:-**Parameters: -

    output\_dir="test\_trainer",

    evaluation\_strategy="epoch",

    logging\_strategy="epoch",

    save\_strategy="epoch",

    num\_train\_epochs=3,  # Example number of epochs

    per\_device\_train\_batch\_size=8,  # Example batch size

    per\_device\_eval\_batch\_size=8,  # Example batch size

    logging\_dir='./logs',  # Directory for storing logs

    logging\_steps=500,  # Log every 500 steps

    save\_total\_limit=2,  # Example number of checkpoints to save

    load\_best\_model\_at\_end=True,  # Load the best model at the end of training

Output :-

A screenshot of a computer

Description automatically generated

Parameters: -

training\_args = TrainingArguments(

    output\_dir="test\_trainer",

    evaluation\_strategy="epoch",

    logging\_strategy="epoch",

    save\_strategy="epoch",

    num\_train\_epochs=5,  # Example number of epochs

    per\_device\_train\_batch\_size=16,  # Example batch size

    per\_device\_eval\_batch\_size=16,  # Example batch size

    logging\_dir='./logs',  # Directory for storing logs

    logging\_steps=500,  # Log every 500 steps

    save\_total\_limit=2,  # Example number of checkpoints to save

    load\_best\_model\_at\_end=True,  # Load the best model at the end of training

)

Output :-

A screenshot of a computer

Description automatically generated

Parameters:-

training\_args = TrainingArguments(

    output\_dir="test\_trainer",

    evaluation\_strategy="epoch",

    logging\_strategy="epoch",

    save\_strategy="epoch",

    num\_train\_epochs=5,  # Example number of epochs

    per\_device\_train\_batch\_size=8,  # Example batch size

    per\_device\_eval\_batch\_size=8,  # Example batch size

    logging\_dir='./logs',  # Directory for storing logs

    logging\_steps=500,  # Log every 500 steps

    save\_total\_limit=2,  # Example number of checkpoints to save

    load\_best\_model\_at\_end=True,  # Load the best model at the end of training

)

Output :-

A screenshot of a computer

Description automatically generated

Parameters :-

training\_args = TrainingArguments(

    output\_dir="test\_trainer",

    evaluation\_strategy="epoch",

    logging\_strategy="epoch",

    save\_strategy="epoch",

    num\_train\_epochs=7,  # Example number of epochs

    per\_device\_train\_batch\_size=8,  # Example batch size

    per\_device\_eval\_batch\_size=8,  # Example batch size

    logging\_dir='./logs',  # Directory for storing logs

    logging\_steps=500,  # Log every 500 steps

    save\_total\_limit=2,  # Example number of checkpoints to save

    load\_best\_model\_at\_end=True,

)

Output :-

A screenshot of a computer

Description automatically generated

**DISTILBERT :-**

Parameters :-

training\_args = TrainingArguments(

    output\_dir="test\_trainer",

    evaluation\_strategy="epoch",

    logging\_strategy="epoch",

    save\_strategy="epoch",

    num\_train\_epochs=7,  # Example number of epochs

    per\_device\_train\_batch\_size=8,  # Example batch size

    per\_device\_eval\_batch\_size=8,  # Example batch size

    logging\_dir='./logs',  # Directory for storing logs

    logging\_steps=500,  # Log every 500 steps

    save\_total\_limit=2,  # Example number of checkpoints to save

    load\_best\_model\_at\_end=True,  # Load the best model at the end of training

)

Output :-

A screenshot of a computer

Description automatically generated

Parameters :-

training\_args = TrainingArguments(

    output\_dir="test\_trainer",

    evaluation\_strategy="epoch",

    logging\_strategy="epoch",

    save\_strategy="epoch",

    num\_train\_epochs=7,  # Example number of epochs

    per\_device\_train\_batch\_size=8,  # Example batch size

    per\_device\_eval\_batch\_size=8,  # Example batch size

    logging\_dir='./logs',  # Directory for storing logs

    logging\_steps=500,  # Log every 500 steps

    save\_total\_limit=2,  # Example number of checkpoints to save

    load\_best\_model\_at\_end=True,  # Load the best model at the end of training

)

Output :-

A screenshot of a computer

Description automatically generated

Parameters :-

training\_args = TrainingArguments(

    output\_dir="test\_trainer",

    evaluation\_strategy="epoch",

    logging\_strategy="epoch",

    save\_strategy="epoch",

    num\_train\_epochs=7,  # Example number of epochs

    per\_device\_train\_batch\_size=8,  # Example batch size

    per\_device\_eval\_batch\_size=8,  # Example batch size

    logging\_dir='./logs',  # Directory for storing logs

    logging\_steps=500,  # Log every 500 steps

    save\_total\_limit=2,  # Example number of checkpoints to save

    load\_best\_model\_at\_end=True,  # Load the best model at the end of training

)

# Trainer

trainer = Trainer(

    model=model,

    args=training\_args,

    train\_dataset=train\_dataset,

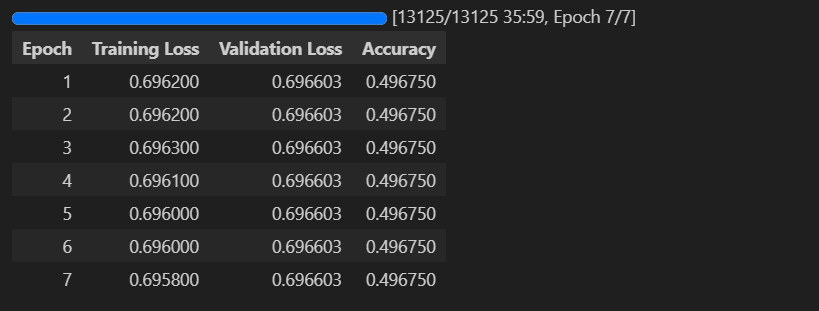
    eval\_dataset=test\_dataset,

    compute\_metrics=compute\_metrics,

    optimizers=(optimizer, None),

)

Output :-



**GPT-2:-** Slowest to train and finetune but the best performance only trained a single epoch in an hour to achieve the accuracy of 0.92.

Parameters:-

training\_args = TrainingArguments(

output\_dir='./results',

num\_train\_epochs=1,

per\_device\_train\_batch\_size=5,

per\_device\_eval\_batch\_size=5,

logging\_dir='./logs',

logging\_steps=500,

evaluation\_strategy="epoch",

save\_steps=500,

overwrite\_output\_dir=True

)

from transformers import Trainer

trainer = Trainer(

model=gpt2\_model,

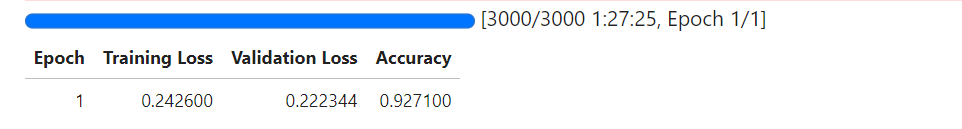
args=training\_args,

train\_dataset=train\_dataset,

eval\_dataset=test\_dataset,

compute\_metrics=compute\_metrics

)

Output:- 

**Took around 15-20 minutes for the training of 3 epochs and batch size of 8. Did not really note the time of rest of the trainings as it was taking too long but can take an idea from the 3-epoch model. I did training simultaneously on both Kaggle and colab and managed to complete it within a day.**