

```
In [ ]: !pip install transformers
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Looking in indexes: https://pypi.org/simple, (https://pypi.org/simple,) http
s://us-python.pkg.dev/colab-wheels/public/simple/ (https://us-python.pkg.dev/co
lab-wheels/public/simple/)
Collecting transformers
  Downloading transformers-4.27.4-py3-none-any.whl (6.8 MB)
    _____ 6.8/6.8 MB 49.0 MB/s eta 0:00:00
Requirement already satisfied: tqdm>=4.27 in /usr/local/lib/python3.9/dist-pack
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Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.9/dist
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Requirement already satisfied: requests in /usr/local/lib/python3.9/dist-packag
es (from transformers) (2.27.1)
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86_64.whl (7.8 MB)
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Requirement already satisfied: pyyaml>=5.1 in /usr/local/lib/python3.9/dist-pac
kages (from transformers) (6.0)
Requirement already satisfied: typing-extensions>=3.7.4.3 in /usr/local/lib/pyt
hon3.9/dist-packages (from huggingface-hub<1.0,>=0.11.0->transformers) (4.5.0)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in /usr/local/lib/python3.
9/dist-packages (from requests->transformers) (1.26.15)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.9/dist-pa
ckages (from requests->transformers) (3.4)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.9/d
ist-packages (from requests->transformers) (2022.12.7)
Requirement already satisfied: charset-normalizer~=2.0.0 in /usr/local/lib/pyth
on3.9/dist-packages (from requests->transformers) (2.0.12)
Installing collected packages: tokenizers, huggingface-hub, transformers
Successfully installed huggingface-hub-0.13.4 tokenizers-0.13.3 transformers-4.
27.4
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In [ ]: import pandas as pd
df = pd.read_csv('inaug_speeches.csv', encoding = 'latin1')
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In [ ]: from transformers import pipeline
classifier = pipeline('zero-shot-classification', model='roberta-large-mnli')
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Downloading (...)lve/main/config.json: 0%| | 0.00/688 [00:00<?, ?B/s]

Downloading pytorch_model.bin: 0%| | 0.00/1.43G [00:00<?, ?B/s]

Some weights of the model checkpoint at roberta-large-mnli were not used when initializing RobertaForSequenceClassification: ['roberta.pooler.dense.bias', 'roberta.pooler.dense.weight']

- This IS expected if you are initializing RobertaForSequenceClassification from the checkpoint of a model trained on another task or with another architecture (e.g. initializing a BertForSequenceClassification model from a BertForPreTraining model).
- This IS NOT expected if you are initializing RobertaForSequenceClassification from the checkpoint of a model that you expect to be exactly identical (initializing a BertForSequenceClassification model from a BertForSequenceClassification model).

Downloading (...)olve/main/vocab.json: 0%| | 0.00/899k [00:00<?, ?B/s]

Downloading (...)olve/main/merges.txt: 0%| | 0.00/456k [00:00<?, ?B/s]

Downloading (...)main/tokenizer.json: 0%| | 0.00/1.36M [00:00<?, ?B/s]

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In [ ]:
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In [ ]: quant_scores = []
optimistic_scores = []

for speech in df['text']:
    # classify the speech using the pipeline
    result = classifier(speech, ['quantitative reasoning skills', 'optimistic'])
    # save the scores in the appropriate lists
    quant_scores.append(result['scores'][0])
    optimistic_scores.append(result['scores'][1])

# add the new columns to the dataframe
df['QuantLLMQuant'] = quant_scores
df['Optimistic'] = optimistic_scores
```

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In [ ]: df.to_csv('inaug_speeches_LLM.csv', index=False)
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In [ ]:
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