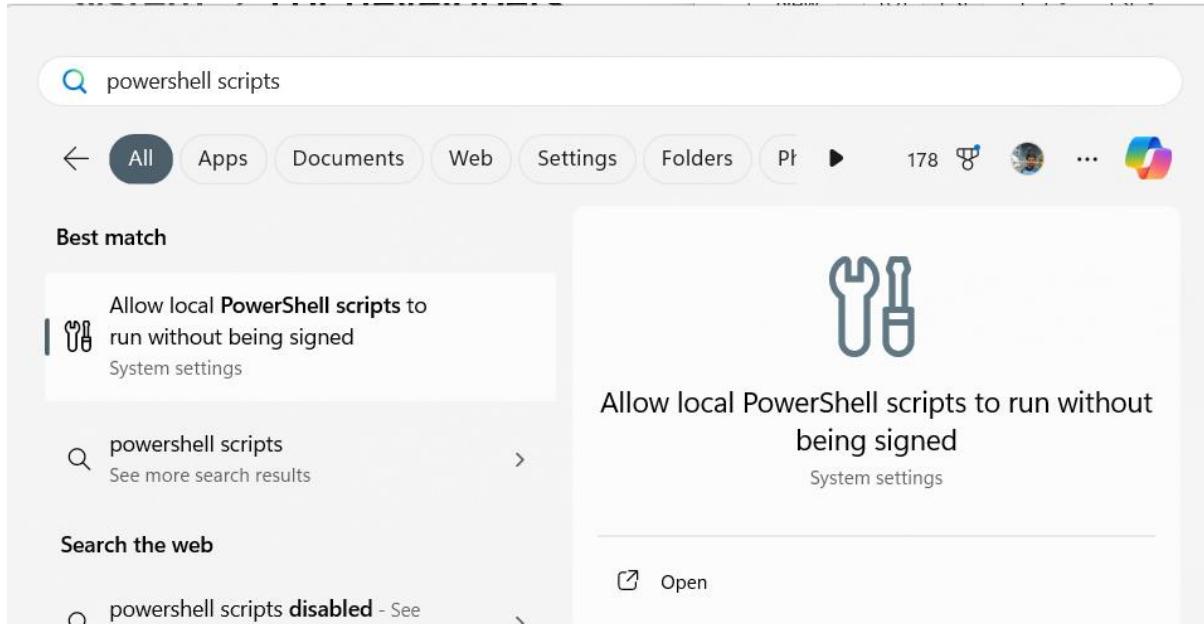


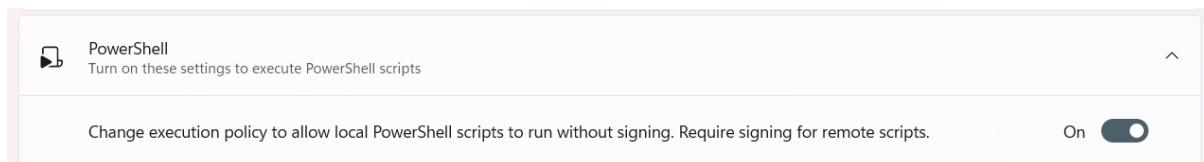
****This application is initialised and tested by Google Collab code within the file named "langchain_textsum(datasettesting)" You can run that code in Google Collab to check results. ****

How to Start the Application?

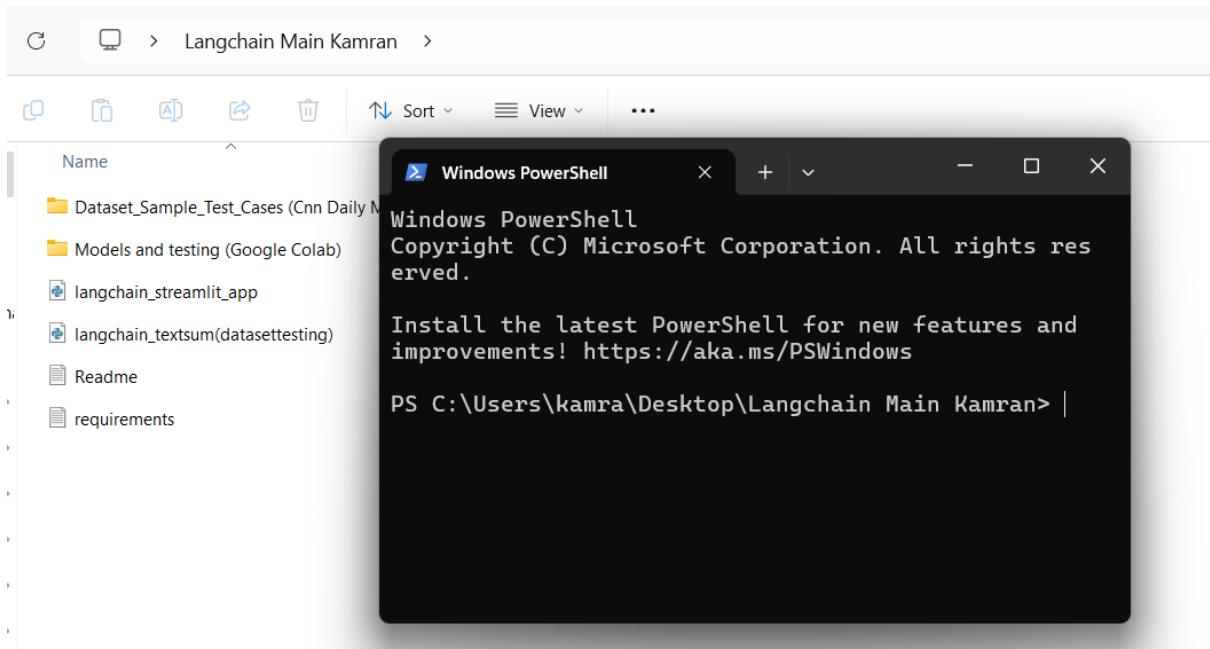
- 1) Download python and install it (<https://www.python.org/downloads/>)
- 2) Press the window key and search for as in the figure:



- 3) Turn the execution policy on.



- 4) Open the source folder right-click at the space on the screen and click open in terminal as below :



- 5) Now create virtual environment by typing “ python -m venv LangSum ” and activate the scripts by “ .\LangSum\Scripts\activate ”

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\kamra\Desktop\Langchain Main Kamran> python -m venv LangSum
PS C:\Users\kamra\Desktop\Langchain Main Kamran> .\LangSum\Scripts\activate
(LangSum) PS C:\Users\kamra\Desktop\Langchain Main Kamran> |
```

- 6) Now to install the dependencies type “ pip install -r ./requirements.txt ” (please be patient, it will take some time)

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\kamra\Desktop\Langchain Main Kamran> .\LangSum\Scripts\activate
(LangSum) PS C:\Users\kamra\Desktop\Langchain Main Kamran> pip install -r ./requirements.txt
```

- 7) At this point it will take some time:

```
Windows PowerShell + - X
Using cached setuptools-75.6.0-py3-none-any.whl (1.2 MB)
Using cached h11-0.14.0-py3-none-any.whl (58 kB)
Using cached mpmath-1.3.0-py3-none-any.whl (536 kB)
Using cached sniffio-1.3.1-py3-none-any.whl (10 kB)
Installing collected packages: pytz, mpmath, docopt, xxhash, watchdog, urllib3, uritools, tzdata, typing-extensions, tornado, toml, threadpoolctl, tenacity, sympy, sniffio, smmap, six, setuptools, safetensors, rpds-py, regex, PyYAML, python-dotenv, pyrsistent, pygments, pycountry, pyarrow, protobuf, propcache, platformdirs, pillow, path, packaging, orjson, numpy, networkx, narwhals, mypy-extensions, multidict, mdurl, MarkupSafe, lxml, jsonpointer, joblib, idna, httpx-sse, h11, greenlet, fsspec, frozenlist, filelock, dill, colorama, charset-normalizer, certifi, cachetools, blinker, attrs, annotated-types, aiohappyeyeballs, absl-py, yarl, urlextract, typing-inspect, tqdm, SQLAlchemy, scipy, rouge, requests, referencing, python-docx, python-dateutil, pydantic-core, path.py, multiprocessing, marshmallow, markdown-it-py, jsonpatch, jinja2, httpcore, gitdb, click, breadability, anyio, aiosignal, torch, scikit-learn, rich, requests-toolbelt, pydeck, pydantic, pandas, nltk, lexrank, jsonschema-specifications, huggingface-hub, httpx, gitpython, dataclasses-json, aiohttp, tokenizers, sumy, rouge_score, pydantic-settings, langsmith, jsonschema, transformers, langchain-core, datasets, altair, streamlit, sentence-transformers, langchain-text-splitters, langchain-huggingface, langchain, langchain_community
```

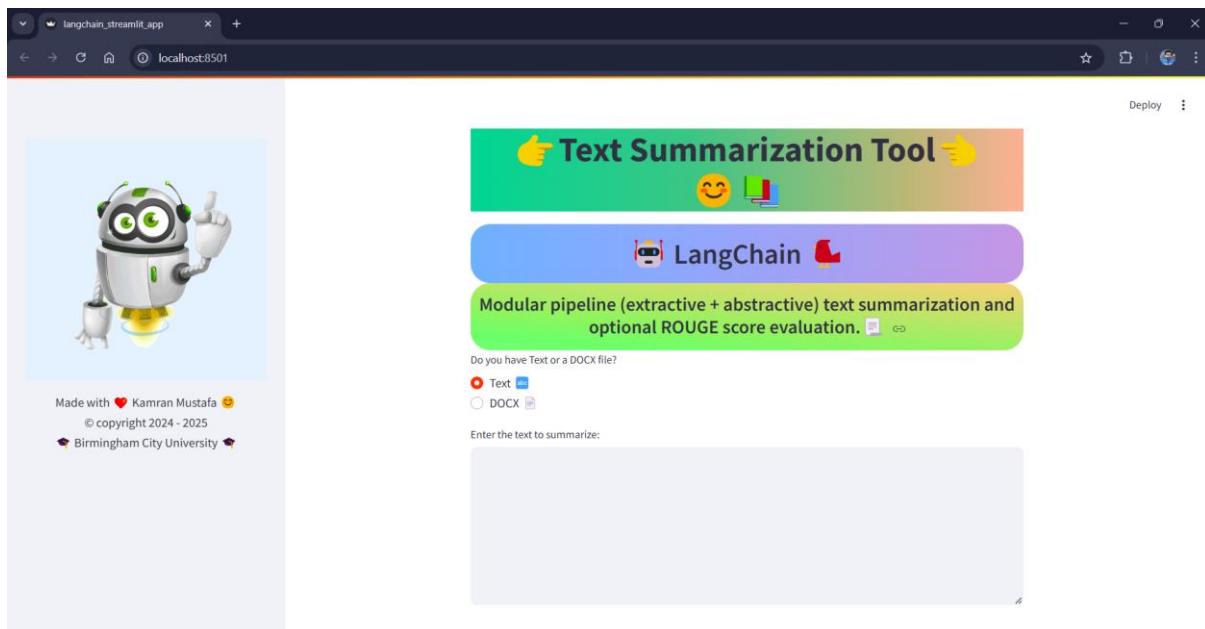
8) To run the main app please type “ streamlit run .\langchain_streamlit_app.py ”

```
Windows PowerShell + - X
2 python-dotenv-1.0.1 pytz-2024.2 referencing-0.35.1 regex-2024.11.6 requests-2.32.3 requests-toolbelt-1.0.0 rich-13.9.4 rouge-1.0.1 rouge_score-0.1.2 rpds-py-0.22.3 safetensors-0.4.5 scikit-learn-1.6.0 scipy-1.14.1 sentence-transformers-3.3.1 setuptools-75.6.0 six-1.17.0 smmap-5.0.1 sniffio-1.3.1 streamlit-1.41.1 sumy-0.11.0 sympy-1.13.1 tenacity-9.0.0 threadpoolctl-3.5.0 tokenizers-0.21.0 toml-0.10.2 torch-2.5.1| tornado-6.4.2 tqdm-4.67.1 transformers-4.47.0 typing-extensions-4.12.2 typing-inspect-0.9.0 tzdata-2024.2 uritools-4.0.3 urlextract-1.9.0 urllib3-2.2.3 watchdog-6.0.0 xxhash-3.5.0 yarl-1.18.3
(LangSum) PS C:\Users\kamra\Desktop\Langchain Main Kamran> streamlit run .\langchain_streamlit_app.py
```

```
Windows PowerShell + - X
-3.1.43 greenlet-3.1.1 h11-0.14.0 httpcore-1.0.7 httpx-0.28.1 httpx-sse-0.4.0 huggingface-hub-0.26.5 idna-pointer-3.0.0 jsonschema-4.23.0 jsonschema-specifications-2024.10.1 langchain-0.3.11 langchain-core-0.3.24 ers-0.3.2 langchain_community-0.3.11 langsmith-0.2.3 lexrank-0.1.0 lxml-5.3.0 markdown-it-py-3.0.0 marshma-0.0 multiprocessing-0.70.16 mypy-extensions-1.0.0 narwhals-1.18.3 networkx-3.4.2 nltk-3.9.1 numpy-2.2.0 orjson ath.py-12.5.0 pillow-11.0.0 platformdirs-4.3.6 propcache-0.2.1 protobuf-5.29.1 pyarrow-18.1.0 pycountry-24-settings-2.7.0 pydeck-0.9.1 pygments-2.18.0 pyrsistent-0.20.0 python-dateutil-2.9.0.post0 python-docx-1.1.5.1 regex-2024.11.6 requests-2.32.3 requests-toolbelt-1.0.0 rich-13.9.4 rouge-1.0.1 rouge_score-0.1.2 rpds-py-1.14.1 sentence-transformers-3.3.1 setuptools-75.6.0 six-1.17.0 smmap-5.0.1 sniffio-1.3.1 streamlit-1.41.1 dpoolctl-3.5.0 tokenizers-0.21.0 toml-0.10.2 torch-2.5.1 tornado-6.4.2 tqdm-4.67.1 transformers-4.47.0 typing-2024.2 uritools-4.0.3 urlextract-1.9.0 urllib3-2.2.3 watchdog-6.0.0 xxhash-3.5.0 yarl-1.18.3
You can now view your Streamlit app in your browser.ran> streamlit run .\langchain_streamlit_app.py

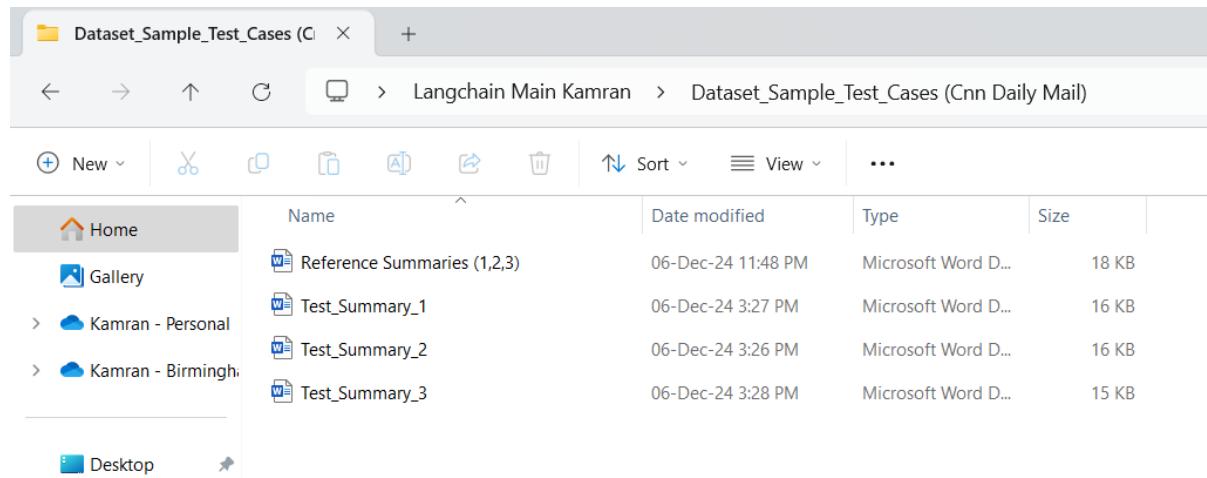
Local URL: http://localhost:8501
Network URL: http://192.168.0.29:8501
```

9) The app will start in a web browser



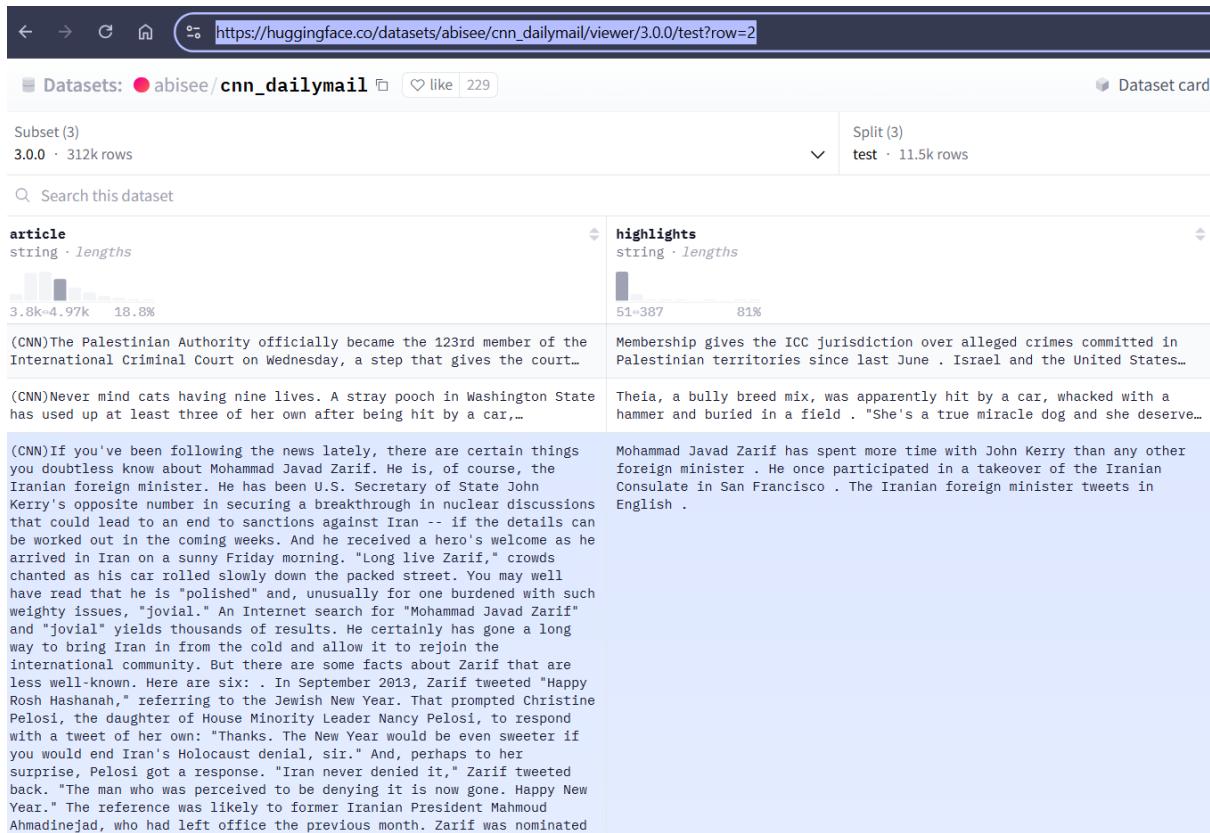
How to Use the Application?

- 1) Once the application is started if you want to test the summary you can check a folder named "Dataset_Sample_Test_Cases (CNN Daily Mail)" where you can find test summaries in Word files and there are reference summaries in single-word file.



You can use the link to the dataset as mentioned:

https://huggingface.co/datasets/abisee/cnn_dailymail/viewer/3.0.0/test?row=2



- 2) You can select text if you want to copy and paste the text and if you have reference summary select "yes" otherwise "no".

localhost:8501

Do you have Text or a DOCX file?

Text HTML

DOCX DOC

Enter the text to summarize:

Francisco. The aim, says the website Iranian.com -- which cites Zarif's memoirs, titled "Mr. Ambassador" -- was to expel from the consulate people who were not sufficiently Islamic. Later, the website says, Zarif went to make a similar protest at the Iranian mission to the United Nations. In response, the Iranian ambassador to the United Nations offered him a job. In fact, he has now spent more time with Kerry than any other foreign minister in the world. And that amount of quality time will only increase as the two men, with help from other foreign ministers as well, try to meet a June 30 deadline for nailing down the details of the agreement they managed to outline this week in Switzerland.

Do you have a reference summary?

No

Yes

Enter the reference summary:

Mohammad Javad Zarif has spent more time with John Kerry than any other foreign minister. He once participated in a takeover of the Iranian Consulate in San Francisco. The Iranian foreign minister tweets in English.

Summarize Text

- 3) Same thing is for docs just upload the document having text I already have in the folder "Dataset_Sample_Test_Cases (CNN Daily Mail)": Test_Summary_1, 2,3 and get reference summary from the file named "Reference Summaries (1,2,3)"

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Optional ROUGE score evaluation:

Do you have Text or a DOCX file?

Text
 DOCX

Upload your DOCX file:

Drag and drop file here
Limit 200MB per file • DOCX

Test_Summary_1.docx 15.7KB

Text extracted successfully! Proceed to summarization.

Do you have a reference summary?

No
 Yes

Summarize Text

- 4) Click on “Summarise Text ”
- 5) Processing will take place and give you the results.

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Enter the reference summary:

Mohammad Javad Zarif has spent more time with John Kerry than any other foreign minister. He once participated in a takeover of the Iranian Consulate in San Francisco. The Iranian foreign minister tweets in English.

Summarize Text

Generated Summary:

Mohammad Javad Zarif was among the students who took over the Iranian Consulate in San Francisco. He has now spent more time with Kerry than any other foreign minister in the world.

ROUGE Scores:

ROUGE1: Precision: 0.7188, Recall: 0.6571, F1 Score: 0.6866

ROUGE2: Precision: 0.4839, Recall: 0.4412, F1 Score: 0.4615

ROUGEL: Precision: 0.5000, Recall: 0.4571, F1 Score: 0.4776