Signature Project: Automated Essay Scoring System

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Create cluster on GKE

- gcloud container clusters create kubia
  --num-nodes=1 --machine-type=e2-micro
  --region=us-west1

```
Note: Your Pod address range (`--cluster-ipv4-cidr`)
Creating cluster kubia in us-west1-a... Cluster is be
Created [https://container.googleapis.com/v1/projects
To inspect the contents of your cluster, go to: https
kubeconfig entry generated for kubia.
NAME: kubia
LOCATION: us-west1-a
MASTER_VERSION: 1.21.6-gke.1503
MASTER_IP: 35.233.215.122
MACHINE_TYPE: e2-micro
NODE_VERSION: 1.21.6-gke.1503
NUM_NODES: 1
STATUS: RUNNING
mazokuloncz@cloudshell:~ (caramel-limiter-339410)$
```

Connect to cluster

	Status	Name ↑	Location	Number of nodes	Total vCPUs	Total memory
☐	✔	kubia	us-west1-a	1	2	1 GB

- gcloud container clusters get-credentials kubia
--zone us-west1-a --project
caramel-limiter-339410

```
Fetching cluster endpoint and auth data.
kubeconfig entry generated for kubia.
```

Download miniconda


```
mazokuloncz@cloudshell:~ (caramel-limiter-339410)$ wget https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh
--2022-04-15 09:24:51--  https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh
Resolving repo.anaconda.com (repo.anaconda.com)... 104.16.131.3, 104.16.130.3, 2606:4700::6810:8303, ...
Connecting to repo.anaconda.com (repo.anaconda.com)|104.16.131.3|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 75660608 (72M) [application/x-sh]
Saving to: 'Miniconda3-latest-Linux-x86_64.sh'

Miniconda3-latest-Linux-x86_64.sh            100%[===================================================================>]

2022-04-15 09:24:53 (42.0 MB/s) - 'Miniconda3-latest-Linux-x86_64.sh' saved [75660608/75660608]
```

```
Miniconda3 will now be installed into this location:
/home/mazokuloncz/miniconda3

  - Press ENTER to confirm the location
  - Press CTRL-C to abort the installation
  - Or specify a different location below

[/home/mazokuloncz/miniconda3] >>> █
```

Setup python environment

- export PATH="/home/mazokucz/miniconda3/bin:$PATH"
- conda create -n pyenv python=3.6
- conda activate pyenv

```
To initialize your shell, run

    $ conda init <SHELL_NAME>

Currently supported shells are:
 - bash
 - fish
 - tcsh
 - xonsh
 - zsh
 - powershell
```

Import git project

- git clone https://github.com/Quan25/flask-summary.git


```
mazokuloncz@cloudshell:~ (caramel-limiter-339410)$ git clone https://github.com/Quan25/flask-summary.git
Cloning into 'flask-summary'...
remote: Enumerating objects: 191, done.
remote: Counting objects: 100% (191/191), done.
remote: Compressing objects: 100% (136/136), done.
remote: Total 191 (delta 91), reused 148 (delta 51), pack-reused 0
Receiving objects: 100% (191/191), 710.58 KiB | 8.07 MiB/s, done.
Resolving deltas: 100% (91/91), done.
```

Download and Unzip rough.zip

- wget --load-cookies /tmp/cookies.txt
  "https://docs.google.com/uc?export=download&confirm=$(wget --quiet --savecookies
  /tmp/cookies.txt --keep-session-cookies --no-check-certificate
  'https://drive.google.com/file/d/1RxfZOYyNvzvCf37_vABfJMkohAsEZKtH/' -O- | sed -rn
  's/.confirm=([0-9A-Za-z_]+)./\1\n/p')&id=1RxfZOYyNvzvCf37_vABfJMkohAsEZKtH"-O rough.zip && rm
  -rf /tmp/cookies.txt

```
Archive:  rough.zip
   creating: RELEASE-1.5.5/
   creating: RELEASE-1.5.5/data/
   creating: RELEASE-1.5.5/data/WordNet-2.0-Exceptions/
  inflating: RELEASE-1.5.5/data/WordNet-2.0-Exceptions/adj.exc
  inflating: RELEASE-1.5.5/data/WordNet-2.0-Exceptions/verb.exc
  inflating: RELEASE-1.5.5/data/WordNet-2.0-Exceptions/adv.exc
  inflating: RELEASE-1.5.5/data/WordNet-2.0-Exceptions/WordNet-2.0.exc.db
  inflating: RELEASE-1.5.5/data/WordNet-2.0-Exceptions/buildExeptionDB.pl
  inflating: RELEASE-1.5.5/data/WordNet-2.0-Exceptions/noun.exc
  inflating: RELEASE-1.5.5/data/WordNet-2.0.exc.db
  inflating: RELEASE-1.5.5/data/WordNet-1.6.exc.db
```

Install libxml-parser-perl, it is essential for installing ROUGE-1.5.5

- sudo apt-get install libxml-parser-perl
- sudo cpan install XML::Parser::PerlSAX
- sudo cpan install XML::RegExp
- Sudo cpan install XML::DOM

```
Loading internal logger. Log::Log4perl recommended for better logging
Reading '/root/.cpan/Metadata'
  Database was generated on Tue, 05 Apr 2022 18:17:03 GMT
Running install for module 'XML::DOM'
Fetching with LWP:
http://www.cpan.org/authors/id/T/TJ/TJMATHER/XML-DOM-1.46.tar.gz
Checksum for /root/.cpan/sources/authors/id/T/TJ/TJMATHER/XML-DOM-1.46.tar.gz ok
'YAML' not installed, will not store persistent state
Configuring T/TJ/TJMATHER/XML-DOM-1.46.tar.gz with Makefile.PL
Checking if your kit is complete...
Looks good
```

Install pyrouge

- git clone https://github.com/bheinzerling/pyrouge.git
- pip install -e .
- conda install pytorch-cpu==1.1.0 torchvision-cpu==0.3.0 cpuonly -c pytorch

```
Cloning into 'pyrouge'...
remote: Enumerating objects: 551, done.
remote: Total 551 (delta 0), reused 0 (delta 0), pack-reused 551
Receiving objects: 100% (551/551), 123.17 KiB | 4.93 MiB/s, done.
Resolving deltas: 100% (198/198), done.
```

Download pretrained-bert-model and install packages

wget https://s3.amazonaws.com/models.huggingface.co/bert/bert-largeuncased.tar.gz

pip3 install flask

pip3 install pandas

pip3 install sklearn

pip3 install nltk pip3

install gensim==3.8.3

pip3 install pytorch-pretrained-bert

pip3 install matplotlib==3.0.0

```
Resolving s3.amazonaws.com (s3.amazonaws.com)... 52.217.82.246
Connecting to s3.amazonaws.com (s3.amazonaws.com)|52.217.82.246|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1248501532 (1.2G) [application/x-tar]
Saving to: 'bert-large-uncased.tar.gz'

bert-large-uncased.tar.gz          100%[===================================================>]   1.16G  45.8MB/s    in 27s

2022-04-05 18:46:22 (44.0 MB/s) - 'bert-large-uncased.tar.gz' saved [1248501532/1248501532]
```

Run app.py


```
 * Serving Flask app 'app' (lazy loading)
 * Environment: production
   WARNING: This is a development server. Do not use it in a production deployment.
   Use a production WSGI server instead.
 * Debug mode: on
WARNING:werkzeug: * Running on all addresses.
   WARNING: This is a development server. Do not use it in a production deployment.
INFO:werkzeug: * Running on http://172.17.0.4:5000/ (Press CTRL+C to quit)
INFO:werkzeug: * Restarting with stat
WARNING:werkzeug: * Debugger is active!
INFO:werkzeug: * Debugger PIN: 547-974-187
```

Use Web Preview and change the port number to 5000

Please paste the contents that you want to summarize:

```
Russia has asked China for military
assistance in Ukraine, including drones,
a senior US official said Sunday.

CNN has reached out to the Russian
embassy in the US for comment but did
not receive an immediate response.
```

● Add To Instructor
○ Add To Student

——●——————— 20%

submit

Grade Students

Reset

Change Preview Port

Port Number *
5000

CANCEL   CHANGE AND PREVIEW

Potential Summary:

```
Russia has asked China for military
assistance in Ukraine, including drones,
a senior US official said Sunday.
Chinese embassy spokesperson Liu Pengyu
told CNN Sunday he had not heard of
Russia's request. China has put forward
an initiative for responding to the
humanitarian situation in Ukraine. "Our
```

References

- https://hc.labnet.sfbu.edu/~henry/npu/classes/kubernetes_in_action/first_step/slide/zizhuo_huang_final_project.html