

# MLOPS Assignment 1

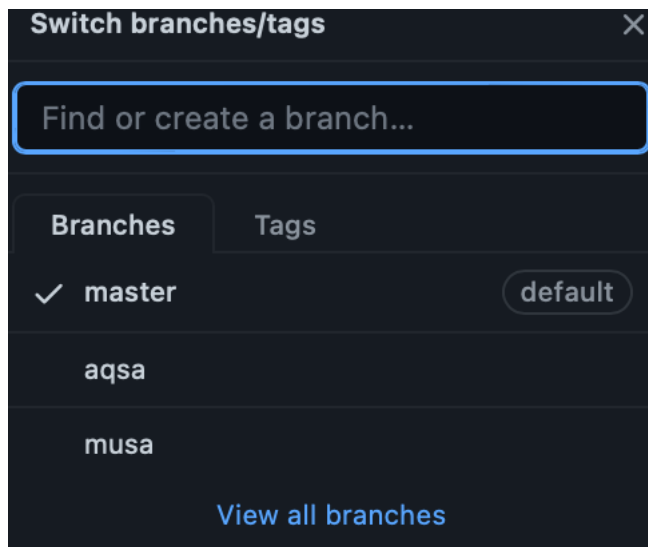
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## Step 1 #

We Scaffolded <https://github.com/kuangliu/pytorch-cifar>

Made two branches

- musa
- aqsa



## Step 2# Added Security Analysis and CodeQL in Workflow

29 lines (24 sloc) | 648 Bytes

```
1  name: Security Analysis with CodeQL
2
3  on:
4    push:
5      branches: [main]
6
7  jobs:
8    analyze:
9      runs-on: ubuntu-latest
10     steps:
11       - name: Checkout repository
12         uses: actions/checkout@v2
13
14       - name: Setup CodeQL
15         uses: github/codeql-action/init@v1
16         with:
17           languages: python
18
19       - name: Build CodeQL database
20         uses: github/codeql-action/analyze@v1
21         with:
22           query: security-features.ql
23           languages: python
24           database-path: codeql-db
25
26       - name: Upload SARIF results
27         uses: github/codeql-action/upload-sarif@v1
28         with:
29           sarif_file: codeql-results.sarif
```

### Step 3# Added Black and Document Generator

```
jobs:
  format:
    runs-on: ubuntu-latest
    steps:
      - name: Checkout code
        uses: actions/checkout@v2

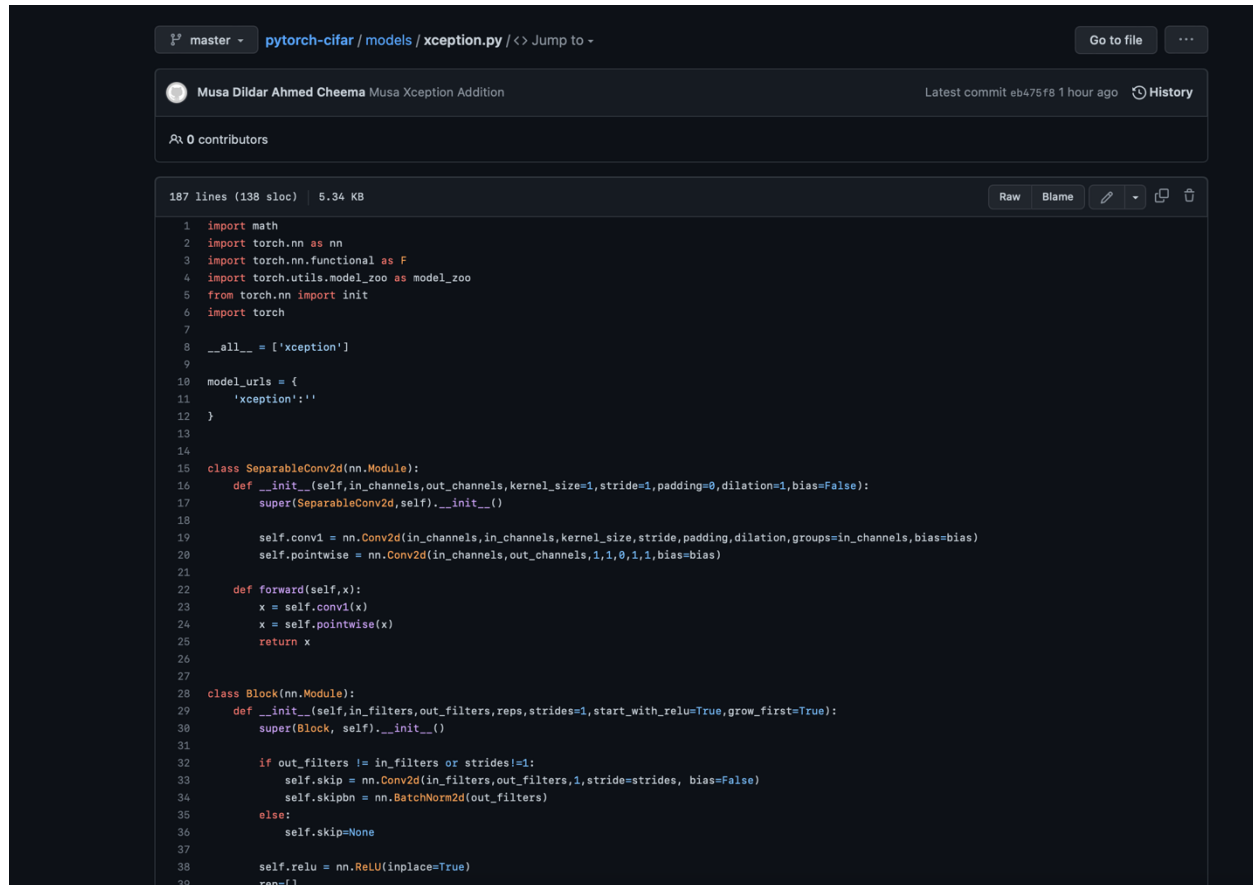
      - name: Set up Python
        uses: actions/setup-python@v2
        with:
          python-version: 3.8

      - name: Install dependencies
        run: pip install black

      - name: Run Black
        run: black .

  build:
    runs-on: ubuntu-latest
    steps:
      - name: Checkout repository
        uses: actions/checkout@v2
      - name: Install dependencies
        run: |
          sudo apt-get update
          sudo apt-get install -y python3-sphinx
      - name: Build documentation
        run: |
          sphinx-build -b html docs/ build/
      - name: Publish documentation
        uses: peaceiris/actions-gh-pages@v3.7.0
        with:
          personal_token: ${ secrets.GH_PAGES_TOKEN }
          publish_dir: ./build/
```

## Step 4# Added new model to the Repo Xception a contribution to the Repo



The screenshot displays a GitHub repository interface for the file `pytorch-cifar / models / xception.py`. The repository is owned by **Musa Dildar Ahmed Cheema** and has a latest commit `eb475f8` from 1 hour ago. The file is 187 lines long (138 sloc) and 5.34 KB in size. The code defines two classes: `SeparableConv2d` and `Block`.

```
1 import math
2 import torch.nn as nn
3 import torch.nn.functional as F
4 import torch.utils.model_zoo as model_zoo
5 from torch.nn import init
6 import torch
7
8 __all__ = ['xception']
9
10 model_urls = {
11     'xception': ''
12 }
13
14
15 class SeparableConv2d(nn.Module):
16     def __init__(self, in_channels, out_channels, kernel_size=1, stride=1, padding=0, dilation=1, bias=False):
17         super(SeparableConv2d, self).__init__()
18
19         self.conv1 = nn.Conv2d(in_channels, in_channels, kernel_size, stride, padding, dilation, groups=in_channels, bias=bias)
20         self.pointwise = nn.Conv2d(in_channels, out_channels, 1, 1, 0, 1, 1, bias=bias)
21
22     def forward(self, x):
23         x = self.conv1(x)
24         x = self.pointwise(x)
25         return x
26
27
28 class Block(nn.Module):
29     def __init__(self, in_filters, out_filters, reps, strides=1, start_with_relu=True, grow_first=True):
30         super(Block, self).__init__()
31
32         if out_filters != in_filters or strides != 1:
33             self.skip = nn.Conv2d(in_filters, out_filters, 1, stride=strides, bias=False)
34             self.skipbn = nn.BatchNorm2d(out_filters)
35         else:
36             self.skip = None
37
38         self.relu = nn.ReLU(inplace=True)
39         rep=[]
```

## Step 5# Updated the Readme

### Train CIFAR10 with PyTorch

I'm playing with [PyTorch](#) on the CIFAR10 dataset.

#### Prerequisites

- Python 3.6+
- PyTorch 1.0+

#### Training

```
# Start training with:
python main.py

# You can manually resume the training with:
python main.py --resume --lr=0.01
```

#### Accuracy

Model	Acc.
VGG16	92.64%
ResNet18	93.02%
ResNet50	93.62%
ResNet101	93.75%
RegNetX_200MF	94.24%
RegNetY_400MF	94.29%
MobileNetV2	94.43%
ResNeXt29(32x4d)	94.73%
ResNeXt29(2x64d)	94.82%
SimpleDLA	94.89%
DenseNet121	95.04%
PreActResNet18	95.11%
DPN92	95.16%
DLA	95.47%
Xception	96.90%

## Step 6# Created a DockerFile For Jenkins

```
10 lines (13 slots) | 655 bytes
1 FROM jenkins/jenkins:2.375.3
2 USER root
3 RUN apt-get update && apt-get install -y lsb-release
4 RUN curl -fsSL /usr/share/keyrings/docker-archive-keyring.asc \
5     https://download.docker.com/linux/debian/gpg
6 RUN echo "deb [arch=$(dpkg --print-architecture) \
7     signed-by=/usr/share/keyrings/docker-archive-keyring.asc] \
8     https://download.docker.com/linux/debian \
9     $(lsb_release -cs) stable" > /etc/apt/sources.list.d/docker.list
10 RUN apt-get update && apt-get install -y docker-ce-cli
11 USER jenkins
12 RUN jenkins-plugin-cli --plugins "blueocean docker-workflow"
13
14
15 # sudo docker exec id cat /var/jenkins_home/secrets/initialAdminPassword
```

## Step 7# Created a Github Webhook and PipeLine

☒ GitHub hook trigger for GITScm polling ?

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Actions

**Webhooks**

Environments

Codespaces

Pages

Security

Code security and analysis

Deploy keys

Secrets and variables

Integrations

GitHub apps

Email notifications

Autolink references

SettingsRecent Deliveries

We'll send a POST request to the URL below with details of any subscribed events. You can also specify which data format you'd like to receive (JSON, x-www-form-urlencoded, etc). More information can be found in [our developer documentation](#).

**Payload URL \***  
http://3.133.24.230:8080/job/

**Content type**  
application/x-www-form-urlencoded

**Secret**

**Which events would you like to trigger this webhook?**  
☒ Just the push event.  
☐ Send me everything.  
☐ Let me select individual events.

☒ **Active**  
We will deliver event details when this hook is triggered.

Update webhook

Delete webhook

## Step 8# Created a Jenkin Login

Additional actions ?

Convert login and password to token ?

GitHub API URL

https://api.github.com

From credentials

From login and password

Login

Password

Create token credentials

## Step 9# Created a Pull request to Original Author

xception model addition #158

Edit <> Code

Open musadac wants to merge 1 commit into kuangliu:master from NUCES-ISB:musa

Conversation 1 Commits 1 Checks 0 Files changed 26 +201 -9

musadac commented 18 hours ago

No description provided.

xception model addition

16f484d

musadac commented 18 hours ago

Author

Xception Addition

Add more commits by pushing to the musa branch on NUCES-ISB/pytorch-cifar-10191765-1908.

✓ This branch has no conflicts with the base branch

Only those with write access to this repository can merge pull requests.

Write Preview

H B I E <> P L M U @

Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

Close pull request Comment

Remember, contributions to this repository should follow our GitHub Community Guidelines.

ProTip! Add .patch or .diff to the end of URLs for Git's plaintext views.

Reviewers

No reviews

Still in progress? Convert to draft

Assignees

No one assigned

Labels

None yet

Projects

None yet

Milestone

No milestone

Development

Successfully merging this pull request may close these issues.

None yet

Notifications

Unsubscribe

You're receiving notifications because you authored the thread.

1 participant

# Code QL Analysis

```
► Run github/codeql-action/analyze@v2
/opt/hostedtoolcache/CodeQL/2.12.2-20230207/x64/codeql/codeql version --format=terse
2.12.2
► Extracting python
► Finalizing python
Code Scanning configuration file being processed in the codeql CLI.
► Running queries for python
► Interpreting results for python
Analysis produced the following diagnostic data:

| Diagnostic | Summary |
|-----|-----|
| Successfully extracted Python files | 22 results |

Analysis produced the following metric data:

| Metric | Value |
|-----|-----|
| Total lines of Python code in the database | 117455 |
| Total lines of user written Python code in the database | 1874 |

/opt/hostedtoolcache/CodeQL/2.12.2-20230207/x64/codeql/codeql database print-baseline /home/runner/work/_temp/codeql_databases/python
Counted a baseline of 2145 lines of code for python.
Counted a baseline of 2145 lines of code for python.

► Cleaning up databases
► Uploading results
► Waiting for processing to finish
```

1. This Sets the name of the workflow to "Security Analysis with CodeQL".
2. Triggers the workflow to run when you push changes to the main branch of the repository.
3. Defines a job called "analyze" that runs on the latest version of Ubuntu.
4. Checks out your repository code.
5. Sets up CodeQL for Python.
6. Builds a CodeQL database using the **security-features.ql** query and the **python** language.
7. Uploads the CodeQL results in SARIF format to the GitHub Security tab for review.