
Tez

Abhishek Thakur

Aug 16, 2021

CONTENTS

1	Tez Model	3
2	Tez Datasets	5
3	Tez Callbacks	7

Tez is a simple pytorch trainer to make your life easy. It comes with some useful dataset classes and callbacks. Instead of inheriting from `nn.Module`, we inherit from `tez.Model`.

```
import tez

class MyModel(tez.Model):
    def __init__(self):
        super().__init__()
        # do something here

    def forward(self, arg1, arg2):
        # do something here
        return outputs, loss, metrics
```

In Tez, the dataset class and model's forward function are closely related. The output names from dataset class must be same as the input arguments in forward function of the model.

See an example below:

```
import tez

class MyModel(tez.Model):
    def __init__(self):
        super().__init__()
        .
        .
        # tell when to step the scheduler
        self.step_scheduler_after="batch"

    def monitor_metrics(self, outputs, targets):
        outputs = torch.sigmoid(outputs).cpu().detach().numpy() >= 0.5
        targets = targets.cpu().detach().numpy()
        accuracy = metrics.accuracy_score(targets, outputs)
        return {"accuracy": accuracy}

    def fetch_scheduler(self):
        # create your own scheduler

    def fetch_optimizer(self):
        # create your own optimizer

    def forward(self, ids, mask, token_type_ids, targets):
        _, o_2 = self.bert(ids, attention_mask=mask, token_type_ids=token_type_ids)
        b_o = self.bert_drop(o_2)
        output = self.out(b_o)

        # calculate loss here
        loss = nn.BCEWithLogitsLoss()(output, targets)

        # calculate the metric dictionary here
        metric_dict = self.monitor_metrics(output, targets)
        return output, loss, metric_dict
```


TEZ MODEL

Tez Model is the core and the only important class in Tez.

TEZ DATASETS

Some useful dataset classes used all the time.

TEZ CALLBACKS

Some useful callbacks for *model.fit*