Double-click (or enter) to edit

```
from google.colab import drive
drive.mount('/content/gdrive')
```

    Mounted at /content/gdrive

```
!unzip gdrive/My\ Drive/kaggle/darts-LPT.zip
```

    inflating: darts-LPT/search-EXP-20220606-183128/scripts/model_search.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/operations.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/plot_ablation.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/teacher.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/teacher_update.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/teacher_update_ab4.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/test.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/test_imagenet.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/train.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/train_imagenet.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/train_search.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/train_search_ts.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/train_search_ts_ab1.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/train_search_ts_ab4.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/utils.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/visualize.py
    inflating: darts-LPT/search-EXP-20220606-183128/scripts/visualize_cifar10.py
     creating: darts-LPT/search-EXP-20220606-183343/
    inflating: darts-LPT/search-EXP-20220606-183343/log.txt
     creating: darts-LPT/search-EXP-20220606-183343/scripts/
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/architect.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/architect_ts.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/bird_loader.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/bird_train.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/genotypes.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/mm.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/model.py
```
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```
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/plot_ablation.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/teacher.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/teacher_update.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/teacher_update_ab4.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/test.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/test_imagenet.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/train.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/train_imagenet.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/train_search.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/train_search_ts.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/train_search_ts_ab1.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/train_search_ts_ab4.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/utils.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/visualize.py
    inflating: darts-LPT/search-EXP-20220606-183343/scripts/visualize_cifar10.py

```
        inflating: darts-LPT/teacher.py
        inflating: darts-LPT/teacher_update.py
        inflating: darts-LPT/teacher_update_ab4.py
        inflating: darts-LPT/test.py
        inflating: darts-LPT/test_imagenet.py
        inflating: darts-LPT/train.py
        inflating: darts-LPT/train_imagenet.py
        inflating: darts-LPT/train_search.py
        inflating: darts-LPT/train_search_ts.py
        inflating: darts-LPT/train_search_ts_ab1.py
        inflating: darts-LPT/train_search_ts_ab4.py
        inflating: darts-LPT/utils.py
        inflating: darts-LPT/visualize.py
        inflating: darts-LPT/visualize_cifar10.py
```

```python
# #!pip install kaggle
# from google.colab import files
import os
# #check pwd
# os.getcwd()
# # Define 'local' path as the directory of the virtual machine (where Colab runs)
os. chdir('/content/darts-LPT')
os.getcwd()
# # Path where data .zip file is stored on Google Drive
# # zip_path = '/gdrive/MyDrive/kaggle/chest-xray-pneumonia.zip'
# !unzip gdrive/My\ Drive/kaggle/bird.zip
# !rm kaggle.json
# files.upload()
# #upload kaggle.json
# !mkdir -p ~/.kaggle
# !cp kaggle.json ~/.kaggle/
# !chmod 600 ~/.kaggle/kaggle.json
# !kaggle datasets download -d gpiosenka/100-bird-species
# #kaggle datasets download -d gpiosenka/100-bird-species
```

```
    '/content/darts-LPT'
```

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```python
%autoreload 2
#!pip install utils
import os
import sys
#!pip install pathlib
import utils # from project/code
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
%matplotlib inline
import seaborn as sns
```

```python
#code from https://stackoverflow.com/questions/9727673/list-directory-tree-structure-in-pytho

from pathlib import Path

class DisplayablePath(object):
    display_filename_prefix_middle = '├──'
    display_filename_prefix_last = '└──'
    display_parent_prefix_middle = '    '
    display_parent_prefix_last = '│   '

    def __init__(self, path, parent_path, is_last):
        self.path = Path(str(path))
        self.parent = parent_path
        self.is_last = is_last
        if self.parent:
            self.depth = self.parent.depth + 1
        else:
            self.depth = 0

    @property
    def displayname(self):
        if self.path.is_dir():
            return self.path.name + '/'
        return self.path.name

    @classmethod
    def make_tree(cls, root, parent=None, is_last=False, criteria=None):
        root = Path(str(root))
        criteria = criteria or cls._default_criteria

        displayable_root = cls(root, parent, is_last)
        yield displayable_root

        children = sorted(list(path
                              for path in root.iterdir()
```

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```python
        for path in children:
            is_last = count == len(children)
            if path.is_dir():
                yield from cls.make_tree(path,
                                         parent=displayable_root,
                                         is_last=is_last,
                                         criteria=criteria)
            else:
                yield cls(path, displayable_root, is_last)
            count += 1

    @classmethod
    def _default_criteria(cls, path):
```

```python
            return True

        @property
        def displayname(self):
            if self.path.is_dir():
                return self.path.name + '/'
            return self.path.name

        def displayable(self):
            if self.parent is None:
                return self.displayname

            _filename_prefix = (self.display_filename_prefix_last
                                if self.is_last
                                else self.display_filename_prefix_middle)

            parts = ['{!s} {!s}'.format(_filename_prefix,
                                        self.displayname)]

            parent = self.parent
            while parent and parent.parent is not None:
                parts.append(self.display_parent_prefix_middle
                             if parent.is_last
                             else self.display_parent_prefix_last)
                parent = parent.parent

            return ''.join(reversed(parts))
```

Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/pub
Requirement already satisfied: pathlib in /usr/local/lib/python3.7/dist-packages (1.0.1)

```python
def is_not_hidden(path):
    return not path.name.startswith(".")
paths = DisplayablePath.make_tree(
```

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```python
)
for path in paths:
    print(path.displayable())


# With a criteria (skip hidden files)


paths = DisplayablePath.make_tree(Path('darts-LPT'))
for path in paths:
    print(path.displayable())
```

```
        |         └── 3.jpg
        ├── EfficientNetB4-BIRDS-0.99.h5
        ├── genotypes.py
        ├── images to test/
```

```
│       ├── 1.jpg
│       ├── 14.jpg
│       ├── 2.jpg
│       ├── 3.jpg
│       ├── 4.jpg
│       ├── 5.jpg
│       └── 7.jpg
├── mm.py
├── model.py
├── model_search.py
├── my_csv-2-17-2022-1-17-48.csv
├── operations.py
├── plot_ablation.py
├── search-EXP-20220609-025114/
│   ├── log.txt
│   └── scripts/
│       ├── architect.py
│       ├── architect_ts.py
│       ├── bird_loader.py
│       ├── bird_train.py
│       ├── genotypes.py
│       ├── mm.py
│       ├── model.py
│       ├── model_search.py
│       ├── operations.py
│       ├── plot_ablation.py
│       ├── teacher.py
│       ├── teacher_update.py
│       ├── teacher_update_ab4.py
│       ├── test.py
│       ├── test_imagenet.py
│       ├── train.py
│       ├── train_imagenet.py
│       ├── train_search.py
│       ├── train_search_ts.py
│       ├── train_search_ts_ab1.py
│       ├── train_search_ts_ab4.py
│       ├── utils.py
│       ├── visualize.py
```

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```
├── teacher_update.py
├── teacher_update_ab4.py
├── test.py
├── test_imagenet.py
├── train.py
├── train_imagenet.py
├── train_search.py
├── train_search_ts.py
├── train_search_ts_ab1.py
├── train_search_ts_ab4.py
├── utils.py
├── visualize.py
└── visualize_cifar10.py
```

```
!ls
```

```
architect.py                     search-EXP-20220605-010827
architect_ts.py                  search-EXP-20220605-011325
bird_loader.py                   search-EXP-20220605-011443
birds.csv                        search-EXP-20220605-011508
'birds latin names.csv'          search-EXP-20220606-134642
bird_train.py                    search-EXP-20220606-141522
class_dict.csv                   search-EXP-20220606-141806
data                             search-EXP-20220606-182218
EfficientNetB4-BIRDS-0.99.h5     search-EXP-20220606-182329
genotypes.py                     search-EXP-20220606-182428
'images to test'                 search-EXP-20220606-183128
mm.py                            search-EXP-20220609-025114
model.py                         search-EXP-20220609-150838
model_search.py                  search-EXP-20220609-211729
my_csv-2-17-2022-1-17-48.csv     search-EXP-20220609-211820
operations.py                    search-EXP-20220609-211950
plot_ablation.py                 teacher.py
__pycache__                      teacher_update_ab4.py
search-EXP-20220602-065438       teacher_update.py
search-EXP-20220602-071110       test_imagenet.py
search-EXP-20220602-071709       test.py
search-EXP-20220602-071721       train_imagenet.py
search-EXP-20220602-073607       train.py
search-EXP-20220602-075334       train_search.py
search-EXP-20220604-213347       train_search_ts_ab1.py
search-EXP-20220604-231757       train_search_ts_ab4.py
search-EXP-20220604-232413       train_search_ts.py
search-EXP-20220604-232550       utils.py
search-EXP-20220605-010310       visualize_cifar10.py
search-EXP-20220605-010655       visualize.py
search-EXP-20220605-010716
```

```
!python bird_train.py
#full output will submitted by txt file #train 10_classes  name: log.txt
```

```
    "please use `get_last_lr()`.", UserWarning)
06/09 02:51:17 AM epoch 0 lr 2.500000e-02 lr_w 2.500000e-02 lr_h 2.500000e-02
                                                                    p_conv_3x3', 0
                                                                 ],
        [0.1249, 0.1250, 0.1250, 0.1249, 0.1249, 0.1251, 0.1251, 0.1251],
        [0.1251, 0.1250, 0.1250, 0.1251, 0.1248, 0.1251, 0.1248, 0.1251],
        [0.1250, 0.1250, 0.1251, 0.1249, 0.1249, 0.1250, 0.1250, 0.1251],
        [0.1248, 0.1250, 0.1249, 0.1249, 0.1249, 0.1251, 0.1252, 0.1251],
        [0.1249, 0.1250, 0.1249, 0.1250, 0.1251, 0.1251, 0.1250, 0.1250],
        [0.1249, 0.1249, 0.1252, 0.1251, 0.1250, 0.1250, 0.1250, 0.1249],
        [0.1250, 0.1248, 0.1251, 0.1250, 0.1250, 0.1250, 0.1251, 0.1251],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1251, 0.1249],

        [0.1249, 0.1249, 0.1249, 0.1250, 0.1249, 0.1250, 0.1253, 0.1251],
        [0.1249, 0.1251, 0.1251, 0.1250, 0.1249, 0.1249, 0.1249, 0.1251],
        [0.1250, 0.1250, 0.1252, 0.1251, 0.1249, 0.1249, 0.1250, 0.1249],
        [0.1249, 0.1253, 0.1250, 0.1248, 0.1248, 0.1251, 0.1251, 0.1250],
        [0.1249, 0.1251, 0.1251, 0.1252, 0.1250, 0.1248, 0.1250, 0.1249]],
       device='cuda:0', grad_fn=<SoftmaxBackward0>)
tensor([[0.1251, 0.1250, 0.1250, 0.1250, 0.1249, 0.1251, 0.1249, 0.1250]
```

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```
tensor([[0.1251, 0.1250, 0.1250, 0.1250, 0.1249, 0.1251, 0.1249, 0.1250],
        [0.1249, 0.1248, 0.1252, 0.1247, 0.1251, 0.1249, 0.1252, 0.1251],
        [0.1249, 0.1249, 0.1251, 0.1250, 0.1248, 0.1250, 0.1249, 0.1254],
        [0.1251, 0.1250, 0.1250, 0.1250, 0.1252, 0.1250, 0.1249, 0.1250],
        [0.1251, 0.1249, 0.1250, 0.1250, 0.1251, 0.1249, 0.1250, 0.1251],
        [0.1251, 0.1252, 0.1251, 0.1247, 0.1252, 0.1249, 0.1249, 0.1250],
        [0.1251, 0.1251, 0.1251, 0.1250, 0.1247, 0.1250, 0.1251, 0.1250],
        [0.1250, 0.1249, 0.1251, 0.1250, 0.1250, 0.1248, 0.1251, 0.1248],
        [0.1252, 0.1251, 0.1250, 0.1250, 0.1249, 0.1249, 0.1250, 0.1250],
        [0.1248, 0.1249, 0.1250, 0.1249, 0.1252, 0.1250, 0.1251, 0.1251],
        [0.1252, 0.1249, 0.1250, 0.1250, 0.1250, 0.1249, 0.1250, 0.1251],
        [0.1249, 0.1251, 0.1250, 0.1250, 0.1250, 0.1251, 0.1250, 0.1249],
        [0.1249, 0.1249, 0.1251, 0.1251, 0.1246, 0.1251, 0.1251, 0.1251],
        [0.1250, 0.1247, 0.1250, 0.1251, 0.1252, 0.1250, 0.1250, 0.1250]],
       device='cuda:0', grad_fn=<SoftmaxBackward0>)
06/09 02:51:21 AM train 000 2.346446e+00 0.000000 0.000000
06/09 02:53:41 AM train 050 2.358379e+00 9.803922 52.941176
06/09 02:56:01 AM train 100 2.373601e+00 6.930693 48.514851
06/09 02:58:19 AM train_acc 7.333333
06/09 02:58:19 AM valid 000 2.403364e+00 0.000000 0.000000
06/09 02:58:27 AM valid 050 2.567642e+00 7.843137 31.372549
06/09 02:58:34 AM valid 100 2.534344e+00 9.900990 41.584158
06/09 02:58:42 AM valid_acc 8.000000
06/09 02:58:42 AM epoch 1 lr 2.495266e-02 lr_w 2.495266e-02 lr_h 2.495266e-02
06/09 02:58:42 AM genotype = Genotype(normal=[('skip_connect', 0), ('avg_pool_3x3', 1
tensor([[0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250, 0.1250]],
```

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```
#this result may in local optim so we not submitted
```

```
te=0.025, learning_rate_h=0.025, learning_rate_min=0.001, learning_rate_w=0.025, model
```

```
('sep_conv_5x5', 0), ('dil_conv_5x5', 0), ('sep_conv_3x3', 1), ('max_pool_3x3', 0), (
```

          ('sep_conv_5x5', 1), ('sep_conv_5x5', 1), ('sep_conv_3x3', 2), ('sep_conv_5x5', 1), (

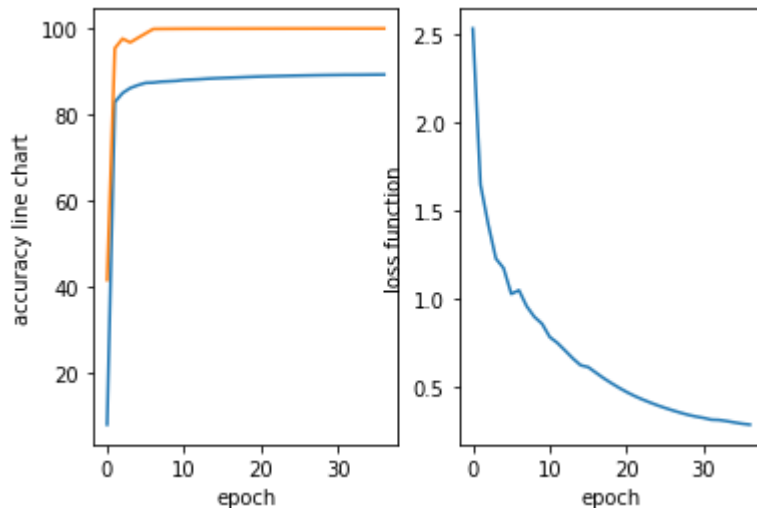Automatic saving failed. This file was updated remotely or in another tab.   Show
diff

```
import matplotlib.pyplot as plt
import numpy
##10-classes train
res = pd.read_csv('/content/darts-LPT/search-EXP-20220609-025114/log.txt',delim_whitespace=Tr
epo = list(range(res[5].size))
fig = plt.figure()
plt.subplot(1, 2, 1)
plt.plot(epo,res[5],label = 'valid_acc')
```

```
plt.plot(epo,res[6],label = 'test_acc')
plt.xlabel('epoch')
plt.ylabel('accuracy line chart')
plt.subplot(1, 2, 2)
plt.plot(epo,res[4])
plt.xlabel('epoch')
plt.ylabel('loss function')
```

Text(0, 0.5, 'loss function')


```
!python bird_train.py --batch_size 64
```

```
06/10 12:28:17 AM valid 200 5.429302e-01 81.257774 98.989428
06/10 12:28:26 AM valid 250 5.435042e-01 81.281125 98.966633
06/10 12:28:35 AM valid 300 5.461649e-01 81.182517 98.966985
06/10 12:28:43 AM valid 350 5.460515e-01 81.396902 98.931624
06/10 12:28:50 AM valid_acc 81.308000
06/10 12:28:50 AM epoch 10 lr 2.229259e-02 lr_w 2.229259e-02 lr_h 2.229259e-02
06/10 12:28:50 AM genotype = Genotype(normal=[('sep_conv_3x3', 0), ('sep_conv_3x3', 1
tensor([[0.1161, 0.1288, 0.0909, 0.1118, 0.1578, 0.1492, 0.1272, 0.1183],
        [0.1520, 0.1067, 0.0918, 0.1047, 0.1489, 0.1402, 0.1311, 0.1246],
        [0.1344, 0.1354, 0.0953, 0.1126, 0.1356, 0.1330, 0.1340, 0.1197],
```

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```
        [0.1525, 0.1094, 0.0963, 0.1097, 0.1403, 0.1338, 0.1231, 0.1349],
        [0.1504, 0.1082, 0.0898, 0.1104, 0.1307, 0.1456, 0.1256, 0.1392],
        [0.1719, 0.0988, 0.0884, 0.1046, 0.1397, 0.1362, 0.1315, 0.1288],
        [0.1482, 0.1330, 0.0932, 0.1066, 0.1376, 0.1300, 0.1278, 0.1238],
        [0.1537, 0.1143, 0.1008, 0.1134, 0.1400, 0.1350, 0.1212, 0.1215],
        [0.1662, 0.1101, 0.0905, 0.1161, 0.1220, 0.1343, 0.1352, 0.1255],
        [0.1649, 0.0985, 0.0865, 0.1003, 0.1370, 0.1406, 0.1348, 0.1373],
        [0.1787, 0.0945, 0.0848, 0.0930, 0.1329, 0.1399, 0.1366, 0.1395]],
       device='cuda:0', grad_fn=<SoftmaxBackward0>)
tensor([[0.1225, 0.1366, 0.1246, 0.1154, 0.1327, 0.1294, 0.1114, 0.1274],
        [0.1208, 0.1202, 0.1135, 0.1292, 0.1311, 0.1377, 0.1236, 0.1239],
        [0.1220, 0.1444, 0.1305, 0.1200, 0.1299, 0.1235, 0.1106, 0.1192],
        [0.1212, 0.1272, 0.1162, 0.1213, 0.1330, 0.1265, 0.1255, 0.1292],
        [0.1250, 0.1241, 0.1035, 0.1309, 0.1217, 0.1352, 0.1265, 0.1332],
        [0.1254, 0.1423, 0.1295, 0.1296, 0.1193, 0.1253, 0.1161, 0.1125],
```

```
            [0.1242, 0.1239, 0.1160, 0.1199, 0.1310, 0.1288, 0.1251, 0.1310],

            [0.1264, 0.1165, 0.0989, 0.1260, 0.1321, 0.1334, 0.1235, 0.1432],
            [0.1333, 0.1135, 0.0984, 0.1237, 0.1304, 0.1328, 0.1310, 0.1368],
            [0.1172, 0.1390, 0.1261, 0.1274, 0.1224, 0.1261, 0.1268, 0.1150],
            [0.1194, 0.1286, 0.1212, 0.1207, 0.1305, 0.1310, 0.1225, 0.1262],
            [0.1241, 0.1244, 0.1060, 0.1323, 0.1402, 0.1216, 0.1275, 0.1238],
            [0.1351, 0.1193, 0.1049, 0.1344, 0.1286, 0.1350, 0.1197, 0.1230],
            [0.1465, 0.1133, 0.0987, 0.1248, 0.1244, 0.1322, 0.1323, 0.1278]],
          device='cuda:0', grad_fn=<SoftmaxBackward0>)
06/10 12:28:53 AM train 000 4.323550e-01 85.937500 98.437500
06/10 12:31:10 AM train 050 4.275731e-01 85.968137 99.417892
06/10 12:33:27 AM train 100 4.181615e-01 85.349629 99.504950
06/10 12:35:44 AM train 150 4.183283e-01 85.451159 99.430877
06/10 12:38:01 AM train 200 4.270930e-01 85.121269 99.424751
06/10 12:40:16 AM train 250 4.298729e-01 85.097112 99.402390
06/10 12:42:30 AM train 300 4.330762e-01 85.023879 99.403032
06/10 12:44:44 AM train 350 4.312202e-01 84.962607 99.403490
06/10 12:46:31 AM train_acc 84.860000
06/10 12:46:31 AM valid 000 5.441179e-01 85.937500 98.437500
06/10 12:46:39 AM valid 050 5.243775e-01 82.199755 99.019608
06/10 12:46:47 AM valid 100 5.653276e-01 80.816832 98.839728
06/10 12:46:54 AM valid 150 5.753207e-01 80.318709 98.841060
06/10 12:47:02 AM valid 200 5.736716e-01 80.449316 98.810634
06/10 12:47:10 AM valid 250 5.770574e-01 80.478088 98.804781
06/10 12:47:18 AM valid 300 5.723681e-01 80.653032 98.780108
06/10 12:47:26 AM valid 350 5.695239e-01 80.684651 98.798077
06/10 12:47:32 AM valid_acc 80.708000
06/10 12:47:32 AM epoch 11 lr 2.179395e-02 lr_w 2.179395e-02 lr_h 2.179395e-02
06/10 12:47:32 AM genotype = Genotype(normal=[('sep_conv_3x3', 0), ('sep_conv_3x3', 1
```

```python
import matplotlib.pyplot as plt
import numpy

##full dataset train output: log.txt
res = pd.read_csv('/content/darts-LPT/search-EXP-20220609-150838/log.txt',delim_whitespace=Tr
epo = list(range(res[5].size))
fig = plt.figure()
```
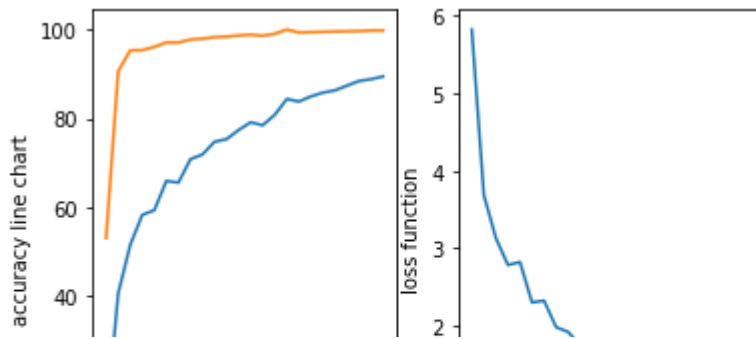
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```python
plt.plot(epo,res[6],label = 'test_acc')
plt.xlabel('epoch')
plt.ylabel('accuracy line chart')
plt.subplot(1, 2, 2)
plt.plot(epo,res[4])
plt.xlabel('epoch')
plt.ylabel('loss function')
```

```
Text(0, 0.5, 'loss function')
```



```
!python bird_train.py --batch_size 64
```

··· Experiment dir : search-EXP-20220610-033117
06/10 03:31:17 AM gpu device = 0
06/10 03:31:17 AM args = Namespace(arch_learning_rate=0.0003, arch_weight_decay=0.001
06/10 03:31:21 AM param size = 2.030848MB
/usr/local/lib/python3.7/dist-packages/torch/optim/lr_scheduler.py:729: UserWarning:
   "please use `get_last_lr()`.", UserWarning)
06/10 03:31:21 AM epoch 0 lr 2.500000e-02 lr_w 2.500000e-02 lr_h 2.500000e-02
06/10 03:31:21 AM genotype = Genotype(normal=[('sep_conv_5x5', 1), ('max_pool_3x3', 0
tensor([[0.1251, 0.1251, 0.1250, 0.1250, 0.1248, 0.1249, 0.1251, 0.1250],
        [0.1250, 0.1250, 0.1249, 0.1251, 0.1249, 0.1252, 0.1251, 0.1249],
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        [0.1250, 0.1250, 0.1251, 0.1250, 0.1250, 0.1252, 0.1249, 0.1249],
        [0.1251, 0.1250, 0.1251, 0.1251, 0.1250, 0.1248, 0.1251, 0.1249],
        [0.1249, 0.1249, 0.1251, 0.1250, 0.1249, 0.1251, 0.1251, 0.1251],
        [0.1250, 0.1250, 0.1248, 0.1250, 0.1251, 0.1251, 0.1251, 0.1249],
        [0.1251, 0.1251, 0.1249, 0.1250, 0.1250, 0.1250, 0.1250, 0.1249],
        [0.1252, 0.1248, 0.1250, 0.1251, 0.1248, 0.1251, 0.1250, 0.1250],
        [0.1250, 0.1250, 0.1248, 0.1250, 0.1251, 0.1251, 0.1250, 0.1250],
        [0.1249, 0.1250, 0.1249, 0.1250, 0.1251, 0.1252, 0.1250, 0.1249],
        [0.1250, 0.1249, 0.1251, 0.1250, 0.1249, 0.1248, 0.1252, 0.1250]],
       device='cuda:0', grad_fn=<SoftmaxBackward0>)
tensor([[0.1249, 0.1249, 0.1251, 0.1249, 0.1251, 0.1251, 0.1249, 0.1250],
        [0.1250, 0.1251, 0.1251, 0.1249, 0.1250, 0.1250, 0.1250, 0.1249],
```

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diff

```
        [0.1250, 0.1250, 0.1251, 0.1250, 0.1251, 0.1251, 0.1249, 0.1248],
        [0.1252, 0.1250, 0.1249, 0.1249, 0.1251, 0.1251, 0.1250, 0.1249],
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        [0.1250, 0.1251, 0.1251, 0.1249, 0.1250, 0.1249, 0.1252, 0.1249],
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        [0.1249, 0.1250, 0.1251, 0.1248, 0.1251, 0.1248, 0.1251, 0.1251],
        [0.1249, 0.1253, 0.1250, 0.1251, 0.1250, 0.1248, 0.1251, 0.1249],
        [0.1248, 0.1250, 0.1249, 0.1252, 0.1250, 0.1250, 0.1252, 0.1250]],
       device='cuda:0', grad_fn=<SoftmaxBackward0>)
06/10 03:31:25 AM train 000 5.995474e+00 0.000000 1.562500
06/10 03:33:46 AM train 050 5.870997e+00 0.704657 3.645833
06/10 03:36:06 AM train 100 5.623810e+00 1.624381 6.729579
06/10 03:38:26 AM train 150 5.429314e+00 2.452401 9.540563
```

```
06/10 03:40:47 AM train 200 5.263702e+00 3.435945 12.367848
06/10 03:43:08 AM train 250 5.132713e+00 4.357570 14.672560
06/10 03:45:28 AM train 300 5.005820e+00 5.305233 16.912375
06/10 03:47:49 AM train 350 4.895979e+00 6.361289 18.990385
06/10 03:50:09 AM train 400 4.777770e+00 7.500779 21.520418
06/10 03:52:30 AM train 450 4.672707e+00 8.685560 23.721591
06/10 03:54:50 AM train 500 4.572748e+00 9.767964 25.948104
06/10 03:57:11 AM train 550 4.487225e+00 10.747505 27.796053
06/10 03:59:31 AM train 600 4.396251e+00 11.943636 29.723898
06/10 04:01:52 AM train 650 4.312254e+00 12.999232 31.562020
06/10 04:04:13 AM train 700 4.233617e+00 14.107079 33.273894
06/10 04:06:34 AM train 750 4.158055e+00 15.231774 34.870173
06/10 04:08:54 AM train 800 4.088761e+00 16.282381 36.337391
06/10 04:11:15 AM train 850 4.020690e+00 17.325206 37.843346
06/10 04:13:35 AM train 900 3.954008e+00 18.370214 39.261931
```

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