山下夏輝 (Yamashita Natsuki)
R08922160

[Environment]

MacOS Catalina 10.15.1

[Challenges]

For achieve strong baseline

1 Took some time to find the command with which applies folders and files in local to the docker environment and updates them after modification of source code.

1.1 docker run -v ../dsp-hw2-1:/opt/kaldi/dsp-hw2-1 -it kaldiasr/kaldi:latest bash

2 Fail to create a program for auto-experiment and auto-record the combinations of every variables and the results. It is first experience for me to use and operate shell script. I have studied tried to creating this for 2 days but in the result I did not find how to send the value in the Collee Shell program back to the Coller Sell program. I just keep the auto execution program which runs 4 programs automatically. The picture is below. So I did experiment with my man-power.

```
#!/bin/bash
./1-preprocess.sh
./2-extract-feat.sh
./3-train.sh
./4-test.sh

exit 0
```

[Result]

The highest accuracy: **97.01**

numiters= 20

maxiterinc= 15

numgauss= 1

totgauss= 6000

realign_iters= "1 2 3 4 5 5 7 8 9 10";

scale_opts= "--transition-scale=1.0 --acoustic-scale=0.1 --self-loop-scale=0.1"

opt_acwt= 0.2

test_beam= 15.0

numiters	maxiterinc	numgauss	totgauss	incgauss	realign_iters	scale_opts	opt_acwt	test_beam	accracy
5	4	1	5	1.0	1-5	1,0.1,0.1	0.8	15	74.84
5	4	1	5	1.0	1-5	1,0.1,0.1	0.2	15	87.05
20	4	1	5	1.0	1-5	1,0.1,0.1	0.2	15	87.8
20	4	1	100	24.8	1-5	1,0.1,0.1	0.2	15	91.65
20	9	1	100	11.0	1-5	1,0.1,0.1	0.2	15	93.26
20	19	1	100	5.2	1-5	1,0.1,0.1	0.2	15	90.85
20	9	1	500	55.4	1-5	1,0.1,0.1	0.2	15	95.62
20	9	1	1000	111.0	1-5	1,0.1,0.1	0.2	15	96.26
20	9	1	1500	166.6	1-5	1,0.1,0.1	0.2	15	96.32
20	9	1	2000	222.1	1-5	1,0.1,0.1	0.2	15	96.55
20	9	1	4000	444.3	1-5	1,0.1,0.1	0.2	15	96.95
20	15	1	4000	266.6	1-5	1,0.1,0.1	0.2	15	96.89
20	9	1	6000	666.6	1-5	1,0.1,0.1	0.2	15	96.75
20	15	1	6000	399.9	1-5	1,0.1,0.1	0.2	15	97.01
20	15	1	6000	399.9	1-5	1,0.1,0.1	0.15	15	96.72
20	15	1	6000	399.9	1-5	1,0.1,0.1	0.25	15	96.95
20	15	1	6000	399.9	1-5	1,0.1,0.1	0.2	15	95.91
20	15	1	6000	399.9	1-15	1,0.1,0.1	0.2	15	96.89
20	15	1	6000	399.9	1-10	1,0.1,0.1	0.2	15	96.83
20	15	1	6000	399.9	1-10	1,0.1,0.1	0.2	20	95.91
20	15	1	6000	399.9	1-10	1,0.1,0.1	0.2	10	96.89
20	15	1	6000	399.9	1-10	1,0.2,0.1	0.2	15	96.32
20	15	1	6000	399.9	1-10	1,0.1,0.2	0.2	15	96.55
20	9	1	8000	888.8	1-5	1,0.1,0.1	0.2	15	96.32
25	15	1	6000	399.9	1-5	1,0.1,0.1	0.2	15	96.89
30	4	1	5	1.0	1-5	1,0.1,0.1	0.2	15	87.8
30	15	1	6000	399.9	1-5	1,0.1,0.1	0.2	15	96.95