**Fine-grained Person Re-identification**

**Release 2 Documentation of task2**

**Centre for Smart Systems, SUTD**

**FEB 2021**

**Learning from background model instruction**

1. **Configure the environment**.
2. Install anaconda. <https://www.anaconda.com/products/individual>
3. Set up the environment for our project by the following commands.

* cd segmentation
* conda env create -f reid.yaml

The conda environment named reid will be set up.

1. Then activate reid.

* conda activate reid

1. **Prepare the dataset to train the reid model.**

In our code, we want the model loads the original images and their background images at the same time. So, we need to mix them in the same directory.

**Option 1.**

We have reorganized the Market1501 and our fine-grained dataset, and you can simply get it at /home/xxsun/Documents/M2/market\_background and /home/xxsun/Documents/M2/background. Then put them under ./segmentation.

We recommend you directly use them to train the reid model for convenience

**Option 2.**

You can prepare the data for training the reid model by the following steps:

Take Market1501 as an example, and you can also follow these steps to prepare our fine-grained dataset.

1. Download Market1501 and put it under ./segmentation.
2. Use the segmentation model to get the mask, where 1 represents background and 0 represents person.

* python simple\_extractor.py

--input-dir market/bounding\_box\_test

--output-dir market\_bg\_mask/bounding\_box\_test

* python simple\_extractor.py

--input-dir market/bounding\_box\_train

--output-dir market\_bg\_mask/bounding\_box\_train

* python simple\_extractor.py

--input-dir market/query

--output-dir market\_bg\_mask/query

c) Run prepare.py to prepare market and maket\_bg\_mask for training.

* python ./reid-baseline-code/prepare.py

--download\_path market

* python ./reid-baseline-code/prepare.py

--download\_path market\_bg\_mask

d) Rename the background images. Append ‘\_bg’ to the original file name. The results will be 0001\_c1s1\_001051\_03.jpg 🡪 0001\_c1s1\_001051\_03\_bg.jpg

* python ./reid-baseline-code/rename.py

--dir market\_bg\_mask/pytorch

1. Mix the original images and their corresponding background masks.

* cp -r market\_bg\_mask/pytorch market

图形用户界面, 文本, 表格

描述已自动生成Finally, the data will be this format.

1. **Train the reid model.**

* cd ./reid-baseline-code
* python ./train\_IDE\_original.py

--name directory to save the trained model

--data\_dir ../market/pytorch

-- use\_two\_stream\_resnet

1. **Extract feature.**

* python test\_original.py

--name directory to load the trained model

--test\_dir ../market/pytorch

--cross the name of feature

--training\_set\_classes number of classes of training set (Market1501’s training set has 751 classes)

-- use\_two\_stream\_resnet

1. **Get the final results.**

* python evaluate.py

--name same as 3 and 4

--cross the name of feature

--logs\_dir directory to save the log