Human Segmentation

This is a graduation project, which aims to build understanding about deep learning and convolutional neural network. The project contains

- Two pretrained models for performing human segmentation on CPU devices.
- An background replacement application using two pretrained models.

Tech

This project uses a number of open source projects to work properly:

- Python
- Pytorch
- Opencv
- Numpy

Installation

This project requires Python 3.5+ to run.

Install python packages

```
$ cd code
$ pip install -r requirements.txt
```

Grant execution permission for running files

```
$ cd code
$ chmod +x run_model_custom.sh
$ chmod +x run_model_esp.sh
```

Run the code

Run Network 1 for human silhouette extraction

```
./run_model_esp.sh
```

Run Network 1 for background replacement

```
# Put your background images into the backgrounds folder
./run_model_esp.sh backgrounds/wonders.png
```

Run Network 2 for human silhouette extraction

```
./run_model_custom.sh
```

Run Network 2 for background replacement

```
# Put your background images into the backgrounds folder
./run_model_custom.sh backgrounds/wonders.png
```