BOĞAZİÇİ UNIVERSITY

CMPE 492

Program Guideline

WEEK 6

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1 Requirements

1. **Python3**
2. Test Version: **3.6.9**
3. Pip is referenced to **pip3** by default.
4. After you reach **Step 2**, please do not make any changes in the directory structure anymore, i.e. do not move any file/folder or rename.

2 Guidelines

This section presents the steps for running the program.

1. Create a new directory with any name and navigate into it. Copy the project files into this newly created directory.
2. Configure the setup environment as it requires the use of virtual environment:
   (a) Upgrade Pip.
   ```
   python3 -m pip install --user --upgrade pip
   ```
   (b) Install Virtual Environment for Python3.
   ```
   python3 -m pip install --user virtualenv
   ```
   (c) Create a Virtual Environment called env (You can choose any name).
   ```
   python3 -m venv env
   ```
   (d) Activate the Virtual Environment called env.
   ```
   source env/bin/activate
   ```
   (e) Install the required packages into the virtual environment.
   ```
   pip install -r requirements.txt
   ```
   (f) Add the path of current working directory into **PYTHONPATH** environment variable. Please note that, each time the virtual environment has been activated, you must re-enter this command.
   ```
   export PYTHONPATH=$PYTHONPATH:/current/working/directory
   ```

(g) **After the entire program execution is over**, you can deactivate by. At this stage, please skip this step.

```
deactivate
```

3. Download the download script called **faceforensics_download_v4** provided by Technical University of Munich for FaceForensics++ dataset. You can find the download script in your mail inbox.

   - After the download has finished, open the script and comment **line 143**:

     ```
     # _ = input('')
     ```

4. Run the **download_script.py** in order to download the dataset.

   ```
   python3 download_script.py
   ```

5. Extract the frames from videos downloaded.

   ```
   python3 extract_frames.py
   ```

6. Form the dataset from the extracted frames automatically.

   ```
   python3 select_frames.py
   ```

7. Run the program.

   ```
   python3 main.py [-base | -finetuning]
   ```

   Provide the argument that you want to use:

   - **-base**: Using the base VGG19 network without applying fine tuning.
   - **-finetuning**: Using the VGG network by applying fine tuning.

   Example: The following command will force the fine tuning of VGG19 during training.

   ```
   python3 main.py -finetuning
   ```