

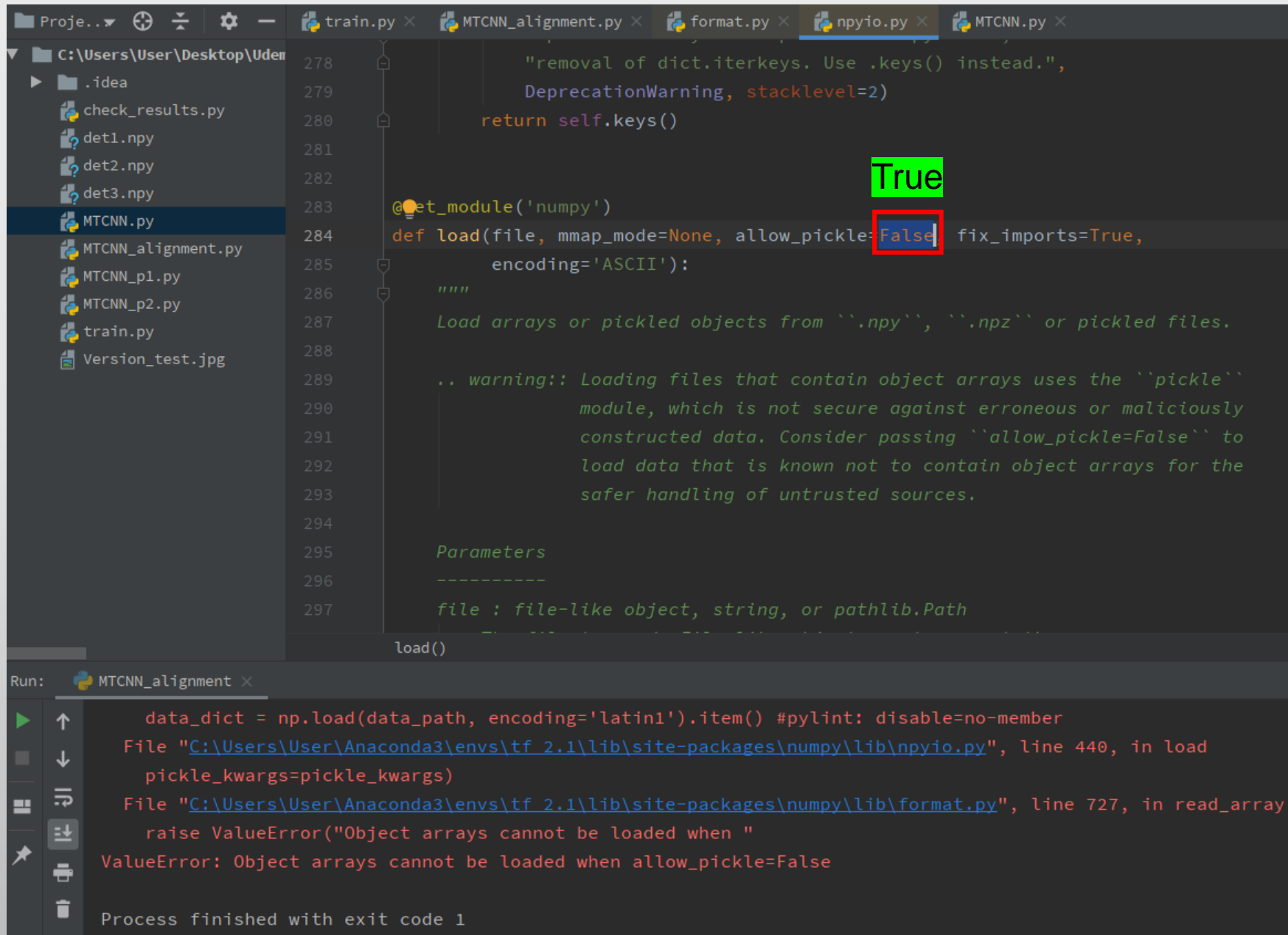
MTCNN notes

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Notes

- In previous chapter, I taught you how to use SSD face detection. In this tutorial, I will teach you how to use MTCNN which is normally used to detect faces.
- You can set a flag to detect one face of each image in order to avoid the problem of detecting multiple faces by SSD method.
- My test hardware equipment:
 - CPU: Intel I7-8700
 - RAM: 32GB
 - GPU: GTX1080Ti,
 - Storage: Adata SX8200 pro 1TB(PCIe 3.0 x 4 SSD)
- Ave process time of each image by MTCNN: around 35 ms while it's around 10 ms by SSD method

ValueError: Object arrays cannot be loaded when allow_pickle=False



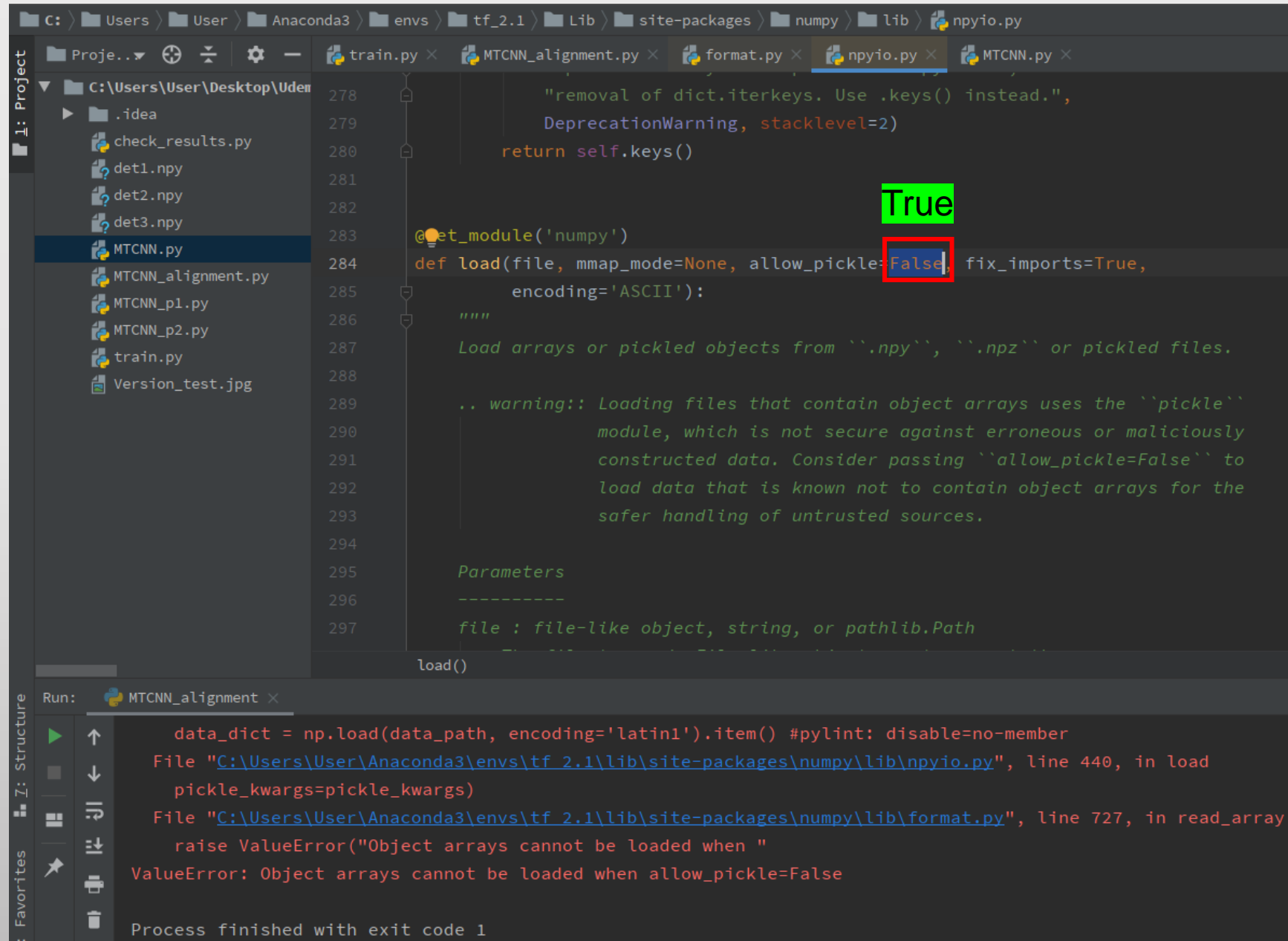
```
278         "removal of dict.iterkeys. Use .keys() instead.",
279         DeprecationWarning, stacklevel=2)
280     return self.keys()
281
282
283     @staticmethod('numpy')
284     def load(file, mmap_mode=None, allow_pickle=False, fix_imports=True,
285             encoding='ASCII'):
286         """
287         Load arrays or pickled objects from ``.npy``, ``.npz`` or pickled files.
288
289         .. warning:: Loading files that contain object arrays uses the ``pickle``
290                     module, which is not secure against erroneous or maliciously
291                     constructed data. Consider passing ``allow_pickle=False`` to
292                     load data that is known not to contain object arrays for the
293                     safer handling of untrusted sources.
294
295         Parameters
296         -----
297         file : file-like object, string, or pathlib.Path
```

True

False

```
data_dict = np.load(data_path, encoding='latin1').item() #pylint: disable=no-member
File "C:\Users\User\Anaconda3\envs\tf_2.1\lib\site-packages\numpy\lib\npyio.py", line 440, in load
    pickle_kwargs=pickle_kwargs)
File "C:\Users\User\Anaconda3\envs\tf_2.1\lib\site-packages\numpy\lib\format.py", line 727, in read_array
    raise ValueError("Object arrays cannot be loaded when "
ValueError: Object arrays cannot be loaded when allow_pickle=False
Process finished with exit code 1
```

ValueError: Object arrays cannot be loaded when allow_pickle=False



The screenshot shows an IDE with a project named 'Proje...' and a file explorer on the left. The file explorer shows a directory structure with files like 'check_results.py', 'det1.npy', 'det2.npy', 'det3.npy', 'MTCNN.py', 'MTCNN_alignment.py', 'MTCNN_p1.py', 'MTCNN_p2.py', 'train.py', and 'Version_test.jpg'. The 'MTCNN.py' file is selected. The main editor shows the code for 'MTCNN.py'. The code includes a docstring for the 'load' function, which is highlighted with a red box. The docstring text is: 'Load arrays or pickled objects from ``.npy``, ``.npz`` or pickled files. .. warning:: Loading files that contain object arrays uses the ``pickle`` module, which is not secure against erroneous or maliciously constructed data. Consider passing ``allow_pickle=False`` to load data that is known not to contain object arrays for the safer handling of untrusted sources. Parameters ----- file : file-like object, string, or pathlib.Path'. The parameter 'allow_pickle=False' is highlighted with a red box. The console output at the bottom shows the error message: 'ValueError: Object arrays cannot be loaded when allow_pickle=False'. The console also shows the file path where the error occurred: 'File "C:\Users\User\Anaconda3\envs\tf_2.1\lib\site-packages\numpy\lib\npyio.py", line 440, in load pickle_kwargs=pickle_kwargs) File "C:\Users\User\Anaconda3\envs\tf_2.1\lib\site-packages\numpy\lib\format.py", line 727, in read_array raise ValueError("Object arrays cannot be loaded when " ValueError: Object arrays cannot be loaded when allow_pickle=False'. The console also shows the process finished with exit code 1.

```
278         "removal of dict.iterkeys. Use .keys() instead.",
279         DeprecationWarning, stacklevel=2)
280     return self.keys()
281
282
283 @set_module('numpy')
284 def load(file, mmap_mode=None, allow_pickle=False, fix_imports=True,
285         encoding='ASCII'):
286     """
287     Load arrays or pickled objects from ``.npy``, ``.npz`` or pickled files.
288
289     .. warning:: Loading files that contain object arrays uses the ``pickle``
290                  module, which is not secure against erroneous or maliciously
291                  constructed data. Consider passing ``allow_pickle=False`` to
292                  load data that is known not to contain object arrays for the
293                  safer handling of untrusted sources.
294
295     Parameters
296     -----
297     file : file-like object, string, or pathlib.Path
298         File to open for reading.
299
300     mmap_mode : {None, 'r+', 'r', 'w+', 'c'}
```

Run: MTCNN_alignment

```
data_dict = np.load(data_path, encoding='latin1').item() #pylint: disable=no-member
File "C:\Users\User\Anaconda3\envs\tf_2.1\lib\site-packages\numpy\lib\npyio.py", line 440, in load
    pickle_kwargs=pickle_kwargs)
File "C:\Users\User\Anaconda3\envs\tf_2.1\lib\site-packages\numpy\lib\format.py", line 727, in read_array
    raise ValueError("Object arrays cannot be loaded when "
ValueError: Object arrays cannot be loaded when allow_pickle=False

Process finished with exit code 1
```

Tested OK environments

	Python	Tensorflow-gpu	Opencv	Matplotlib	Numpy
1	3.7.9	2.1	3.4.2	3.3.2	1.19.2
2	3.6.9	1.13.1	3.4.2	3.1.1	1.16.6