New issue

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Freeze your script with **Pyinstaller** #357

Closed **masoudr** opened this issue on Feb 11, 2018 · 50 comments

masoudr commented on Feb 11, 2018 • edited

Hi,
You might want to freeze your script into a standalone executable to run on any system without the need of installing `python` or `face_recognition` and maybe you want to create a demo for your application and want to give it to someone else without giving your source code. Here is a simple tutorial to do that. I tested this method with `python3.6` on Windows 10 but I think you can get it working on Linux with similar method.

1. **Make sure** you have correctly installed both `face_recognition` and `dlib` correctly and you see no error when importing them into your script.
2. **Make sure** your script works fine and all it dependencies are right next to it and you can run it fine with `python yourscript.py` .
3. Install Pyinstaller with `pip` :
   `pip install pyinstaller`
4. Create a new directory and move your python script and all dependencies into it. I call it `myproject` and `myscript.py`
5. Copy `face_recognition_models` and `scipy-extra-dll` from your python installed directory to your project directory.
6. Create an empty file called `<yourscriptname>.spec` like `myscript.spec` next to your python script.
7. Use below Pyinstaller spec file sample and edit some parts according to your needs: (I mark it with `<>` tag)

```
block_cipher = None

face_models = [
('.\\face_recognition_models\\models\\dlib_face_recognition_resnet_model_v1.dat',
'./face_recognition_models/models'),
('.\\face_recognition_models\\models\\mmod_human_face_detector.dat',
'./face_recognition_models/models'),
('.\\face_recognition_models\\models\\shape_predictor_5_face_landmarks.dat',
'./face_recognition_models/models'),
('.\\face_recognition_models\\models\\shape_predictor_68_face_landmarks.dat',
'./face_recognition_models/models'),
]

a = Analysis(['<your python script name.py>'],
             pathex=['<path to working directory>'],
             binaries=face_models,
             datas=[],
             hiddenimports=['scipy._lib.messagestream', 'scipy', 'scipy.signal',
'scipy.signal.bsplines', 'scipy.special', 'scipy.special._ufuncs_cxx',
                            'scipy.linalg.cython_blas',
                            'scipy.linalg.cython_lapack',
                            'scipy.integrate',
                            'scipy.integrate.quadrature',
                            'scipy.integrate.odepack',
                            'scipy.integrate._odepack',
                            'scipy.integrate.quadpack',
                            'scipy.integrate._quadpack',
                            'scipy.integrate._ode',
                            'scipy.integrate.vode',
                            'scipy.integrate._dop', 'scipy._lib',
'scipy._build_utils','scipy.__config__',
                            'scipy.integrate.lsoda', 'scipy.cluster',
'scipy.constants','scipy.fftpack','scipy.interpolate','scipy.io','scipy.linalg','scipy.misc','scipy.n


             hookspath=[],
             runtime_hooks=[],
             excludes=[],
             win_no_prefer_redirects=False,
             win_private_assemblies=False,
             cipher=block_cipher)

a.datas += Tree('./scipy-extra-dll', prefix=None)

pyz = PYZ(a.pure, a.zipped_data,
             cipher=block_cipher)
exe = EXE(pyz,
          a.scripts,
          a.binaries,
          a.zipfiles,
          a.datas,
          name='<your python script name>',
          debug=False,
          strip=False,
```

8. Generate your executable with `python -m pyinstaller myscript.spec`
9. If you see no error then your executable can be found in `dist` directory.
10. Enjoy!

Thanks to **@ageitgey** and **@davisking** for their awesome work.

10 4 3 9 4 3

ageitgey commented on Feb 11, 2018 Owner

Cool, thanks for sharing!

2

vgreis commented on Feb 15, 2018 • edited

I found this worked very well when running on Windows desktop, but the application would crash on Windows Server 2012 - 2016 with an unhelpful, vague unable to execute DLL error. I found this issue was caused by using the latest version of dlib linked in the project install guide under issue 175 (currently 19.9.99). However, by using 'pip install dlib', which installs 19.9.0 (again, currently as of writing this). The frozen executable is running without errors on both desktop and server. I've also been testing freezing this in both 32-bit and 64-bit python and both are working. Thanks

2

masoudr commented on Feb 15, 2018 Author

@vgreis I haven't tested **Pyinstaller** with the new version of `dlib` but I think you can get it working by just add the missing DLL's to binaries it will then be extracted when running the app and again remember that it doesn't matter if you install `dlib` by source or `pip`, just make sure your installation is successful.

mariocesarc commented on Feb 23, 2018

inewlife commented on Mar 7, 2018

Incompatible library version: dlib.so requires version 51.0.0 or later, but libpng16.16.dylib provides version 38.0.0

masoudr commented on Mar 16, 2018 Author

@inewlife Can you post the complete error log? I haven't tested this method with the new version of `dlib` but I think it is not related because what you need here is just adding `scipy` and `face_recognition_modules` manually not the `dlib` itself.

fordffx commented on Mar 27, 2018 • edited

import face_recognition
File "", line 961, in _find_and_load
File "", line 950, in _find_and_load_unlocked
File "", line 655, in *load_unlocked*
*File "C:**PyInstaller**-3.3.1**PyInstaller**\loader\pyimod03_importers.py", line 631*
, in exec_module
*exec(bytecode, module.**dict**)*
File "C:\ProgramData\Anaconda3\Lib\site-packages\face_recognition_init.py"
, line 7, in
from .api import load_image_file, face_locations, batch_face_locations, face
_landmarks, face_encodings, compare_faces, face_distance
File "", line 961, in _find_and_load
File "", line 950, in _find_and_load_unlocked
File "", line 655, in _load_unlocked
File "C:\PyInstaller-3.3.1\PyInstaller\loader\pyimod03_importers.py", line 631
, in exec_module
exec(bytecode, module.**dict**)
File "C:\ProgramData\Anaconda3\Lib\site-packages\face_recognition\api.py", lin
e 21, in
pose_predictor_5_point = dlib.shape_predictor(predictor_5_point_model)
RuntimeError: Unable to open C:\Users\ADMINI~1\AppData\Local\Temp_MEI71042\face
_recognition_models\models\shape_predictor_5_face_landmarks.dat
[5948] Failed to execute script temp_classroom

how did the exe file come to this dir ?
and _MEI71042 changes every time the exe file run

when i use nuitka to make exe file ,and it jumped out this as the exe file run :
Please install `face_recognition_models` with this command before using `face_recognition` :
pip install git+https://github.com/ageitgey/face_recognition_models
actruly, I did installed them successfully.

thanks

masoudr commented on Mar 27, 2018 — Author

@fordffx Hi,
As I said in the first post you must first install all dependencies for your python. About the `_MEI71042` , every time you run the executable `pyinstaller` tries to extract dependencies in the temp directory and when your program ends without exception it deletes that folder automatically,

i replaced
datas=[]
with
datas=[('shape_predictor_68_face_landmarks.dat','./face_recognition_models/models'),
('shape_predictor_5_face_landmarks.dat','./face_recognition_models/models'),
('mmod_human_face_detector.dat','./face_recognition_models/models'),
('dlib_face_recognition_resnet_model_v1.dat','./face_recognition_models/models')]
that works,thanks

1

roiksail commented on Apr 10, 2018

thanks for sharing your knowledge...i can't find scipy-extra-dll ...how i can to find them in python directory??i am in ubuntu 16.04,
thank you in advance

2

masoudr commented on Apr 10, 2018 Author

@roiksail Hi, dll files are not made for Linux systems so you can't find any. I think you don't need to add `scipy` dependencies. Just build your binary file and try to run it. If It complains about some files just find that and add it manually like above method. That is it.

roiksail commented on Apr 11, 2018

thank you,how i change myscript.spec file??
...

masoudr commented on Apr 11, 2018 Author

@roiksail First you need to freeze your script with `pyinstaller script.py` then the spec file should be generated next to your script file.

thank you so much,I mmaked executable application in ubuntu but when I copied this file in ubuntu then it was simply file and it does not executed,how i fix this??

 **masoudr** commented on Apr 12, 2018 Author

@roiksail I think you need to find out what is **Pyinstaller** and how to use it in from here. In general, after you run the command you should find the executable with the exact name of the script. I think `Pyinstaller` will make the file as executable binary so you can just use `./yourscriptname` command and if it didn't work try to make it executable with `sudo chmod +x yourscriptname` . That is it.

 **sincerefly** commented on Apr 25, 2018

@vgreis thanks, when I build use dlib from github source code, The version is 19.10.99, It can only run on x64 system, and when I use `pip install dlib` , the version is 19.10.0, It can run on x86 system

 **sincerefly** commented on Apr 25, 2018

@masoudr

I'm not find `scipy-extra-dll` in my site-packages, should I need install scipy?

1, when I am not install scipy, I can run face_recognition, Is scipy necessary?
2, I install scipy, and copy scipy dir from site-packages to project dir, with `a.datas += Tree('./scipy-extra-dll', prefix=None)` , I can't find `scipy-extra-dll` , but I find `extra-dll` in scipy dir, can I write `scipy/extra-dll` instead it or not

thank you

 1

 **masoudr** commented on Apr 25, 2018 Author

@sincerefly Hi, If I remember correctly there are some examples that need `scipy` so if you are using `scipy` with your project you need those files but if you don't, just use `face_models` no need for `hidden imports` that is it. And remember you just need to first freeze your script normally and if you got any errors about missing packages, you need to feed them manually in your `spec` file.

ratijas commented on Jun 27, 2018

@sincerefly **@masoudr** Confirmed. My app works with `face_recognition` without touching `scipy` at all. No `hidden_imports` nor `datas` needed in this case.

Also, for now `face_recognition_models/**/*.dat` resources get copied automatically without any extra code in .spec file.

Thanks for your efforts!

--
Windows 10.0.17134.81
Python 3.6 (32bit)
pyinstaller 3.3.1

tinshade commented on Mar 19, 2019

@masoudr Can you please explain to me how can I get the face_recognition_models/**/*.dat resources added from the .spec file? It does not seem to work for me. It says unable to open shape_predictor_68_face_landmarks.dat for some reason.

So far, I have tried:

- Creating with --onedir
- Adding the files to the directory and then running **pyinstaller** with --onedir.

masoudr commented on Mar 19, 2019 Author

@tinshade I've already added all 4 model files in the example above, you just need to use the above sample spec file and fill parameters and this should solve your problem. But if you still need to add other models you can just add this to your spec file.

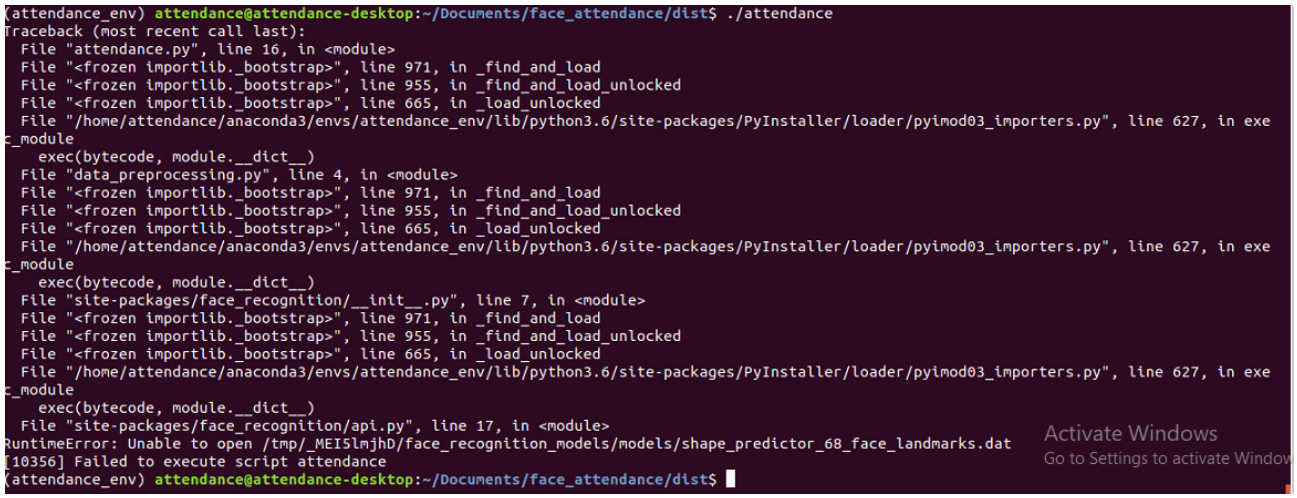
```
a = Analysis(...
     datas= [ ('face_recognition_models/**/*.dat', './face_recognition_models/models' ) ],
     ...
     )
```

This comment was marked as resolved. Sign in to view

masoudr commented on Mar 28, 2019 Author

@alexpardede I'm not familiar with `Conda` but I would suggest you first check your naming, it is case sensitive (`python -m PyInstaller`). Second, you can check your installed modules with `pip freeze` . Also if you have any problem with installing `PyInstaller` you should ask in its repo.

zkywalker commented on Mar 29, 2019



> can you help me for this error ? i already have face-recognition-models while i check with pip freeze. and i already create and execute the attendance.spec. please help me. Thank You

try to copy the dependencies that open fail to your output dependencies dir, its helpful for me

1

zkywalker commented on Mar 29, 2019

> i have new issue. my main script refere to a other script. and the script call library "frozen_inference_graph_face.pb" from another folder. can you help me to solve the problem ? thank for your attention.

lol, the solution is same to dependencies no find, just copy them to the output dependencies dir. And its helpful when you do not use the -f arg, which will generate a file with all dependencies in it.

This comment was marked as resolved. Sign in to view

libohao666 commented on Oct 12, 2019

> I found this worked very well when running on Windows desktop, but the application would crash on Windows Server 2012 - 2016 with an unhelpful, vague unable to execute DLL error. I found this issue was caused by using the latest version of dlib linked in the project install guide under issue 175 (currently 19.9.99). However, by using 'pip install dlib', which installs 19.9.0 (again, currently as of writing this). The frozen executable is running without errors on both desktop and server. I've also been testing freezing this in both 32-bit and 64-bit python and both are working. Thanks

sorry to bother you.I don't understand.is 19.9.0dlib installed in the computer which **pyinstaller** the file or in winserver2012?My my application can run in my windows computer,but it can't work on my windows server2012.And my dlib package can't be uninstalled completely now....

fordffx commented on Oct 17, 2019

> > I found this worked very well when running on Windows desktop, but the application would crash on Windows Server 2012 - 2016 with an unhelpful, vague unable to execute DLL error. I found this issue was caused by using the latest version of dlib linked in the project install guide under issue 175 (currently 19.9.99). However, by using 'pip install dlib', which installs 19.9.0 (again, currently as of writing this). The frozen executable is running without errors on both desktop and server. I've also been testing freezing this in both 32-bit and 64-bit python and both are working. Thanks
>
> sorry to bother you.I don't understand.is 19.9.0dlib installed in the computer which **pyinstaller** the file or in winserver2012?My my application can run in my windows computer,but it can't work on my windows server2012.And my dlib package can't be uninstalled completely now....

maybe you could try building the latest version of dlib on the target platform

I can't find the **scipy-extra-dll** in windows although I installed scipy. Help me.

masoudr commented on Jan 5 Author

@Ragesh77 I haven't tested the new version. But check if you can import `scipy` without any problem and then double-check the file existence. If you still can't find it skip it and check if the executable works or not.

rageshhub commented on Jan 7 • edited

> @Ragesh77 I haven't tested the new version. But check if you can import `scipy` without any problem and then double-check the file existence. If you still can't find it skip it and check if the executable works or not.

@masoudr Thanks for answering. I downgraded scipy to 1.3.0 and could locate all the files.

HAKANMAZI commented on Jan 7

> I can't find the **scipy-extra-dll** in windows although I installed scipy. Help me.

You can search extra-dll using below code on cmd
dir extra-dll /s /p
I hope you will find it in scipy directory. After create scipy-extra-dll directory.
Then all dll files transfer to scipy-extra-dll directory.

1

HAKANMAZI commented on Jan 13

> Hi,
> You might want to freeze your script into a standalone executable to run on any system without the need of installing `python` or `face_recognition` and maybe you want to create a demo for your application and want to give it to someone else without giving your source code. Here is a simple tutorial to do that. I tested this method with `python3.6` on Windows 10 but I think you can get it working on Linux with similar method.
>
> 1. **Make sure** you have correctly installed both `face_recognition` and `dlib` correctly and you see no error when importing them into your script.

3. Install Pyinstaller with pip:

   ```
   pip install pyinstaller
   ```

4. Create a new directory and move your python script and all dependencies into it. I call it `myproject` and `myscript.py`
5. Copy `face_recognition_models` and `scipy-extra-dll` from your python installed directory to your project directory.
6. Create an empty file called `<yourscriptname>.spec` like `myscript.spec` next to your python script.
7. Use below Pyinstaller spec file sample and edit some parts according to your needs: (I mark it with `<>` tag)

```
# -*- mode: python -*-

block_cipher = None

face_models = [
('.\\face_recognition_models\\models\\dlib_face_recognition_resnet_model_v1.dat',
'./face_recognition_models/models'),
('.\\face_recognition_models\\models\\mmod_human_face_detector.dat',
'./face_recognition_models/models'),
('.\\face_recognition_models\\models\\shape_predictor_5_face_landmarks.dat',
'./face_recognition_models/models'),
('.\\face_recognition_models\\models\\shape_predictor_68_face_landmarks.dat',
'./face_recognition_models/models'),
]

a = Analysis(['<your python script name.py>'],
             pathex=['<path to working directory>'],
             binaries=face_models,
             datas=[],
             hiddenimports=['scipy._lib.messagestream', 'scipy', 'scipy.signal',
'scipy.signal.bsplines', 'scipy.special', 'scipy.special._ufuncs_cxx',
                            'scipy.linalg.cython_blas',
                            'scipy.linalg.cython_lapack',
                            'scipy.integrate',
                            'scipy.integrate.quadrature',
                            'scipy.integrate.odepack',
                            'scipy.integrate._odepack',
                            'scipy.integrate.quadpack',
                            'scipy.integrate._quadpack',
                            'scipy.integrate._ode',
                            'scipy.integrate.vode',
                            'scipy.integrate._dop', 'scipy._lib',
'scipy._build_utils','scipy.__config__',
                            'scipy.integrate.lsoda', 'scipy.cluster',
'scipy.constants','scipy.fftpack','scipy.interpolate','scipy.io','scipy.linalg','scipy.misc','sc


             hookspath=[],
             runtime_hooks=[],
             excludes=[],
             win_no_prefer_redirects=False,
```

```
a.datas += Tree('./scipy-extra-dll', prefix=None)

pyz = PYZ(a.pure, a.zipped_data,
             cipher=block_cipher)
exe = EXE(pyz,
          a.scripts,
          a.binaries,
          a.zipfiles,
          a.datas,
          name='<your python script name>',
          debug=False,
          strip=False,
          upx=True,
          runtime_tmpdir=None,
          console=True )
```

1. Generate your executable with `python -m pyinstaller myscript.spec`
2. If you see no error then your executable can be found in `dist` directory.
3. Enjoy!

Thanks to **@ageitgey** and **@davisking** for their awesome work.

Thanks for everything all guys. I did what you said and I created an exe file successfully. But when I click exe file it's working only once then suddenly closes. Before close it says something but I don't read because it is so fastly close. How can I fix this problem

masoudr commented on Jan 13 Author

@HAKANMAZI Try to run executable with CMD and you should get the error in the console. Then put the error.

1

rageshhub commented on Jan 13

Can Someone help me in deploying this app in docker.I searched google nothing is clear.Could someone guide me?

masoudr commented on Jan 14 Author

HAKANMAZI commented on Jan 14 • edited

> **@HAKANMAZI** Try to run executable with CMD and you should get the error in the console. Then put the error.

Thanks **@masoudr** ; output error below, error says me No module named 'sklearn'. Yes true there is no sklearn because I don't use it. Even if when I run my .py file there is no error. But when I change from .py to .exe file it saying No module named 'sklearn'. Why ?

```
raceback (most recent call last):
File "C:\Users\HH\Desktop\python\exe\test.py", line 94, in
openCamera()
File "C:\Users\HH\Desktop\python\exe\test.py", line 66, in openCamera
predictions = predict(facePath, model_path=model_path)
File "C:\Users\HH\Desktop\python\exe\test.py", line 30, in predict
knn_clf = pickle.load(f)
ModuleNotFoundError: No module named 'sklearn'
[14372] Failed to execute script test
[ WARN:0] global C:\projects\opencv-python\opencv\modules\videoio\src\cap_msmf.cpp (674)
SourceReaderCB::~SourceReaderCB terminating async callback
```

masoudr commented on Jan 14 Author

@HAKANMAZI Your error is not related to this tutorial (because you are using `sklearn` which is another module), but you can use this.

HAKANMAZI commented on Jan 19

> **@HAKANMAZI** Try to run executable with CMD and you should get the error in the console. Then put the error.

Thanks **@masoudr** ; output error below, error says me No module named 'sklearn'. Yes true there is no sklearn because I don't use it. Even if when I run my .py file there is no error. But when I change from .py to .exe file it saying No module named 'sklearn'. Why ?

> File "C:\Users\HH\Desktop\python\exe\test.py", line 66, in openCamera
> predictions = predict(facePath, model_path=model_path)
> File "C:\Users\HH\Desktop\python\exe\test.py", line 30, in predict
> knn_clf = pickle.load(f)
> ModuleNotFoundError: No module named 'sklearn'
> [14372] Failed to execute script test
> [WARN:0] global C:\projects\opencv-python\opencv\modules\videoio\src\cap_msmf.cpp (674) SourceReaderCB::~SourceReaderCB terminating async callback

Finally I solved my problem.
As I said I don't use sklearn on my code but background sklearn was using. Then I add in hiddenimports= ['sklearn','sklearn.neighbors._typedefs','sklearn.utils._cython_blas'] in my spec file.
and it is okey, it solved :)

1

daynial132 commented on Mar 3 • edited

hello I am new to this freezer part,

I have made a separate folder as mentioned and move my python script and models in it.
also i copied the freezer script(.spec) file. finally i got the build giving the error "ImportError: No module named 'face_recognition'"
Please help me with it I am using anaconda, and not using scipy.
I have attached the freezer script also.

freeze_app .txt

masoudr commented on Mar 4 Author

@daynial132 First make sure that your script is working fine in your environment also you must be sure that you run PyInstaller from your environment (with using `python -m PyInstaller`). I think you are running the PyInstaller from your main Python installation which doesn't have face_recognition.

daynial132 commented on Mar 4

@masoudr I have placed my python script,3 pics and the freezer file (.spec) and the face_recognition_models in the folder only. do I need any thing else?

Also I have used anaconda shell to run (python -m **PyInstaller**) command.

Thank you for your reply

 **masoudr** commented on Mar 4 Author

@daynial132 I haven't tested this with Conda yet, but I don't think it would be a problem. Your error means that **PyInstaller** can't find the `face_recognition`. Try to run `pip freeze` inside your console and make sure that face_recognition exists in the output. If it is there but you still get that error try to add `face_recognition` into the `hidden_imports` as I did for the scipy modules.

 **mend4x** commented on Mar 25

I am having this output after freezing my code with this `.spec` file below. When I run my app on console on Linux I get this:

```
Traceback (most recent call last):
  File "main.py", line 6, in <module>
  File "<frozen importlib._bootstrap>", line 971, in _find_and_load
  File "<frozen importlib._bootstrap>", line 955, in _find_and_load_unlocked
  File "<frozen importlib._bootstrap>", line 665, in _load_unlocked
  File "/home/neo/Desktop/faseez/dev/refasee/venv/lib/python3.6/site-
packages/PyInstaller/loader/pyimod03_importers.py", line 623, in exec_module
    exec(bytecode, module.__dict__)
  File "face_recognition/__init__.py", line 7, in <module>
  File "<frozen importlib._bootstrap>", line 971, in _find_and_load
  File "<frozen importlib._bootstrap>", line 955, in _find_and_load_unlocked
  File "<frozen importlib._bootstrap>", line 665, in _load_unlocked
  File "/home/neo/Desktop/faseez/dev/refasee/venv/lib/python3.6/site-
packages/PyInstaller/loader/pyimod03_importers.py", line 623, in exec_module
    exec(bytecode, module.__dict__)
  File "face_recognition/api.py", line 20, in <module>
RuntimeError: Unable to open
/tmp/_MEIHAOamS/face_recognition_models/models/shape_predictor_68_face_landmarks.dat
[11437] Failed to execute script main
```

Fascee.spec.txt

1

 **masoudr** commented on Mar 25 Author

(e.g `/tmp/_MEIHAOamS/face_recognition_models/models`).

mend4x commented on Mar 26

@masoudr I actually do have this file in script directory. The given path is `tmp` so each time it runs it's new directory

masoudr commented on Mar 26 Author

@mend4x Double check that the files in `models` directory and also when you run the script check the `tmp` directory and verify the file and its size.

tingfengyinyue commented on Apr 11

@masoudr 我的问题是，打包的时候没有问题，打包后，点击exe 只有小黑窗口，程序没办法运行。
界面没办法显示。请教您帮忙

tingfengyinyue commented on Apr 11

窗口提示：
Fatal Python error: initfsencoding:
unable to load the file system codec zipimport.ZipImportError:
can't find module' encodings

masoudr mentioned this issue on May 18

Windows Installation Tutorial #175

Closed

saadi-tech commented on Sep 2

Thank you soooooooooooooooooooooooooooooooo much! :)

Assignees

No one assigned

Labels

None yet

Projects

None yet

Milestone

No milestone

Linked pull requests

Successfully merging a pull request may close this issue.

None yet

19 participants