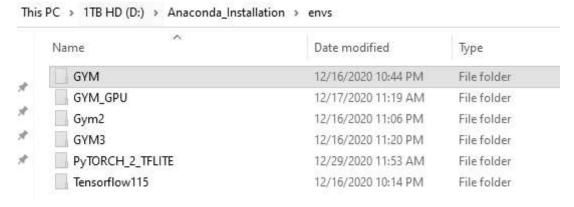
How to modify MLAgents to export the model to Pytorch rather than Onnx

Start by going to the path where you have your Anaconda installed.

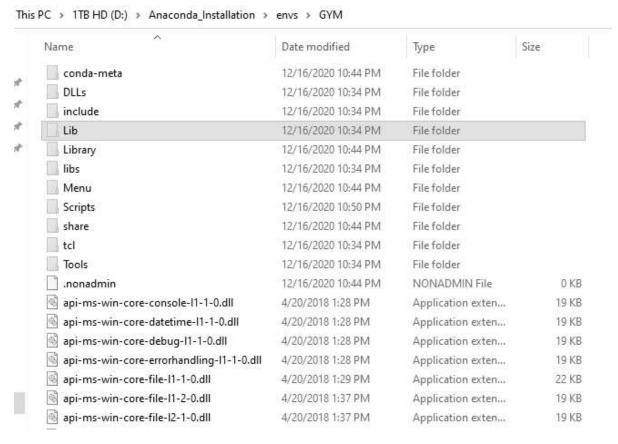
Once there, go to your "envs" folder

an	ne	Date modified	Туре	Size
Į.	bin	12/14/2020 1:42 AM	File folder	
	condabin	12/14/2020 1:43 AM	File folder	
1	conda-meta	1/6/2021 2:18 PM	File folder	
į.	DLLs	12/14/2020 10:30 AM	File folder	
1	envs	1/18/2021 4:10 PM	File folder	
	etc	12/14/2020 1:43 AM	File folder	
	include	12/14/2020 1:43 AM	File folder	
1	info	12/14/2020 1:43 AM	File folder	
1	Lib	12/14/2020 1:43 AM	File folder	
Į.	Library	1/6/2021 2:18 PM	File folder	
	libs	12/14/2020 1:43 AM	File folder	
1	man	12/14/2020 1:43 AM	File folder	
	Menu	12/14/2020 1:43 AM	File folder	
1	pkgs	1/18/2021 4:10 PM	File folder	
	Scripts	12/15/2020 12:27 PM	File folder	
1	share	12/14/2020 1:43 AM	File folder	
1	shell	12/14/2020 1:43 AM	File folder	
	sip	12/14/2020 1:43 AM	File folder	
	tcl	12/14/2020 1:43 AM	File folder	
1	Tools	12/14/2020 1:43 AM	File folder	
1	nonadmin	1/6/2021 2:18 PM	NONADMIN File	0 KE
)	_conda	11/13/2020 8:51 PM	Application	18,858 KF
1	api-ms-win-core-console-I1-1-0.dll	4/20/2018 11:28 PM	Application exten	19 KE
1	api-ms-win-core-datetime-I1-1-0,dll	4/20/2018 11:28 PM	Application exten	19 KI
	api-ms-win-core-debug-l1-1-0.dll	4/20/2018 11:28 PM	Application exten	19 KI
1	api-ms-win-core-errorhandling-l1-1-0.dll	4/20/2018 11:28 PM	Application exten	19 KI
	api-ms-win-core-file-I1-1-0.dll	4/20/2018 11:29 PM	Application exten	22 KF
	api-ms-win-core-file-I1-2-0.dll	4/20/2018 11:37 PM	Application exten	19 KI
]	api-ms-win-core-file-I2-1-0.dll	4/20/2018 11:37 PM	Application exten	19 KI
1	api-ms-win-core-handle-I1-1-0.dll	4/20/2018 11:37 PM	Application exten	19 KI
]	api-ms-win-core-heap-l1-1-0.dll	4/20/2018 11:37 PM	Application exten	19 KI
]	api-ms-win-core-interlocked-I1-1-0.dll	4/20/2018 11:37 PM	Application exten	19 KI
1	api-ms-win-core-libraryloader-l1-1-0.dll	4/20/2018 11:37 PM	Application exten	20 KE
1	api-ms-win-core-localization-11-2-0.dll	4/20/2018 11:37 PM	Application exten	21 KF
	api-ms-win-core-memory-I1-1-0.dll	4/20/2018 11:37 PM	Application exten	19 KI
	api-ms-win-core-namedpipe-l1-1-0.dll	4/20/2018 11:37 PM	Application exten	19 KI
	api-ms-win-core-processenvironment-I1	4/20/2018 11:37 PM	Application exten	20 KF
	api-ms-win-core-processthreads-I1-1-0.dll	4/20/2018 11:37 PM	Application exten	21 KF
1	api-ms-win-core-processthreads-I1-1-1.dll	4/20/2018 11:37 PM	Application exten	19 KE
1	api-ms-win-core-profile-I1-1-0.dll	4/20/2018 11:37 PM	Application exten	18 KE
9	api-ms-win-core-rtlsupport-I1-1-0.dll	4/20/2018 11:37 PM	Application exten	19 KE

Here is the list of your installed environments. Go to the folder of the environment where you have mlagents installed



Then go to "Lib" folder



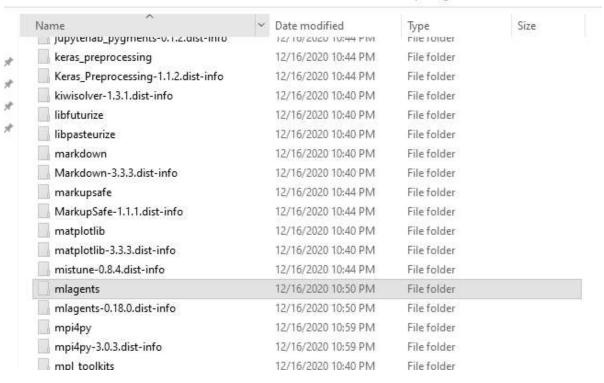
Then go to "site-packages". This is where all the libraries you installed using pip are located

This PC > 1TB HD (D:) > Anaconda_Installation > envs > GYM > Lib

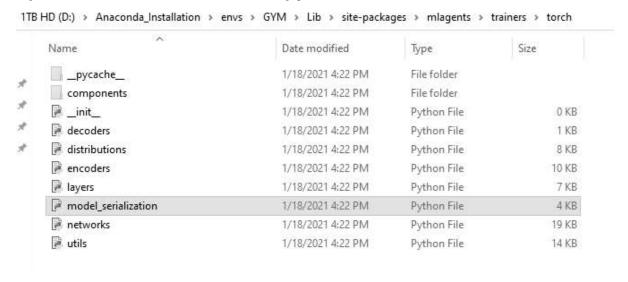
Name	Date modified	Туре	Size	
pycache	12/16/2020 10:34 PM	File folder		
asyncio	12/16/2020 10:34 PM	File folder		
collections	12/16/2020 10;34 PM	File folder		
concurrent	12/16/2020 10:34 PM	File folder		
ctypes	12/16/2020 10:34 PM	File folder		
curses	12/16/2020 10:34 PM	File folder		
dbm	12/16/2020 10:34 PM	File folder		
distutils	12/16/2020 10:34 PM	File folder		
email	12/16/2020 10:34 PM	File folder		
encodings	12/16/2020 10:34 PM	File folder		
ensurepip	12/16/2020 10;34 PM	File folder		
html	12/16/2020 10:34 PM	File folder		
http	12/16/2020 10:34 PM	File folder		
idlelib	12/16/2020 10:34 PM	File folder		
importlib	12/16/2020 10:34 PM	File folder		
json	12/16/2020 10:34 PM	File folder		
lib2to3	12/16/2020 10:34 PM	File folder		
logging	12/16/2020 10:34 PM	File folder		
msilib	12/16/2020 10;34 PM	File folder		
multiprocessing	12/16/2020 10:34 PM	File folder		
pydoc_data	12/16/2020 10:34 PM	File folder		
site-packages	12/16/2020 10:59 PM	File folder		
sqlite3	12/16/2020 10:34 PM	File folder		
test	12/16/2020 10:34 PM	File folder		
tkinter	12/16/2020 10:34 PM	File folder		
turtledemo	12/16/2020 10:34 PM	File folder		
unittest	12/16/2020 10;34 PM	File folder		
urllib	12/16/2020 10:34 PM	File folder		
venv	12/16/2020 10:34 PM	File folder		
wsgiref	12/16/2020 10:34 PM	File folder		
xml	12/16/2020 10:34 PM	File folder		
xmlrpc	12/16/2020 10:34 PM	File folder		
future_	8/15/2020 1:20 PM	Python File		5 KB
_phellofoo	8/15/2020 1:20 PM	Python File		1 KB
_bootlocale	8/15/2020 1:20 PM	Python File		2 KB
collections abc	8/15/2020 1:20 PM	Python File	2	6 KB

Here you should find mlagents. If you don't, you're in the wrong environment!

This PC > 1TB HD (D:) > Anaconda_Installation > envs > GYM > Lib > site-packages



Now go to the following path (/mlagents/trainers/torch)and open the model_serialization.py file in a text editor



Add the highlighted line in the method "def export_policy_model..."

```
*model_serialization.py - D:\Anaconda_Installation\envs\GYM\Lib\site-packages\mlagents\trainers\torch\model_serialization.py (3.8.6)*
File Edit Format Run Options Window Help
                ["vector observation"]
+ [f"visual observation_{i}" for i in range(self.policy.vis_obs_size)]
+ ["action_masks", "memories"]
           self.output names = [
  "action",
  "version_number",
  "memory_size",
  "is_continuous_control",
                 "action_output_shape",
           self.dynamic_axes = {name: {0: "batch"} for name in self.input_names}
self.dynamic_axes.update({"action": {0: "batch"}})
     def export_policy_model(self, output_filepath: str) -> None:
           Exports a Torch model for a Policy to .onnx format for Unity embedding.
            :param output_filepath: file path to output the model (without file suffix)
           onnx_output_path = f"{output_filepath}.onnx"
logger.info(f"Converting to {onnx_output_path}")
           # Insert Here!
torch.save(self.policy.actor_critic, f"{output_filepath}.pth)
           with exporting_to_onnx():
                        ch.onnx.export(
    self.policy.actor_critic,
    self.dummy_input,
    onnx_output_path,
    opset_version=SerializationSettings.onnx_opset,
                       opset_version=serializationsett
input_names=self.input_names,
output_names=self.output_names,
dynamic_axes=self.dynamic_axes,
           logger.info(f"Exported {onnx_output_path}")
                                                                                                                                                                                                             Ln: 96 Col: 69
```

Don't forget to save! Now, in the same path where mlagents saves the onnx file it will also save your pytorch model!