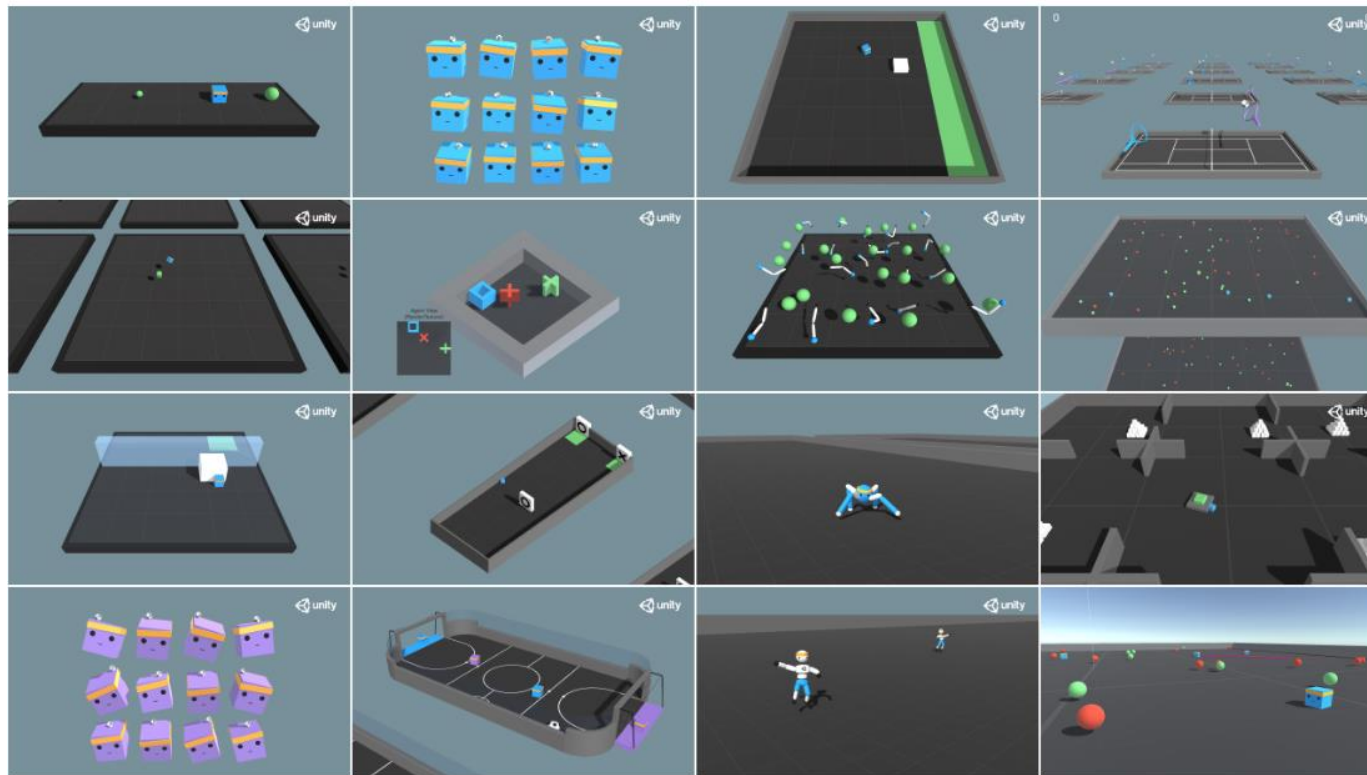


# UNITY ML-AGENTS

SETUP



## Unity ML-Agents Toolkit (Beta)

[docs](#) [reference](#) [license](#) [Apache-2.0](#)

# UNITY ML- AGENTS

Anaconda:

<https://docs.conda.io/projects/conda/en/latest/user-guide/install/index.html>

---

Unity installation:

<https://docs.unity3d.com/Manual/GettingStartedInstallingHub.html>

Cercate di scaricare sempre una delle ultime versioni



# ANACONDA®



# unity

# UNITY ML-AGENTS

In generale Andare al seguente Link: <https://github.com/Unity-Technologies/ml-agents>

The screenshot shows the GitHub repository page for `Unity-Technologies/ml-agents`. The repository is a "Unity Machine Learning Agents Toolkit" with a link to <https://unity3d.ai>. It features various tags including `reinforcement-learning`, `unity3d`, `deep-learning`, `unity`, `deep-reinforcement-learning`, and `neural-networks`. The repository statistics show 1,641 commits, 37 branches, 0 packages, 40 releases, 90 contributors, and an Apache-2.0 license. A progress bar indicates the repository is 100% complete. The "Branch: master" dropdown is set to "master". The "New pull request" button is visible. The "Create new file", "Upload files", "Find file", and "Clone or download" buttons are also present. The commit history table shows the latest commit by `chriselion` (#3083) titled "Rename mlagents.envs to mlagents\_envs" with the commit hash `54125ef` and the date "yesterday". The table lists various files and folders, including `.circleci`, `.github`, `.yamato`, `UnitySDK`, `config`, `demos`, `docs`, `gym-unity`, `ml-agents-envs`, `ml-agents`, `notebooks`, `protobuf-definitions`, and `unity-volume`.

Unity Machine Learning Agents Toolkit <https://unity3d.ai>

reinforcement-learning unity3d deep-learning unity deep-reinforcement-learning neural-networks

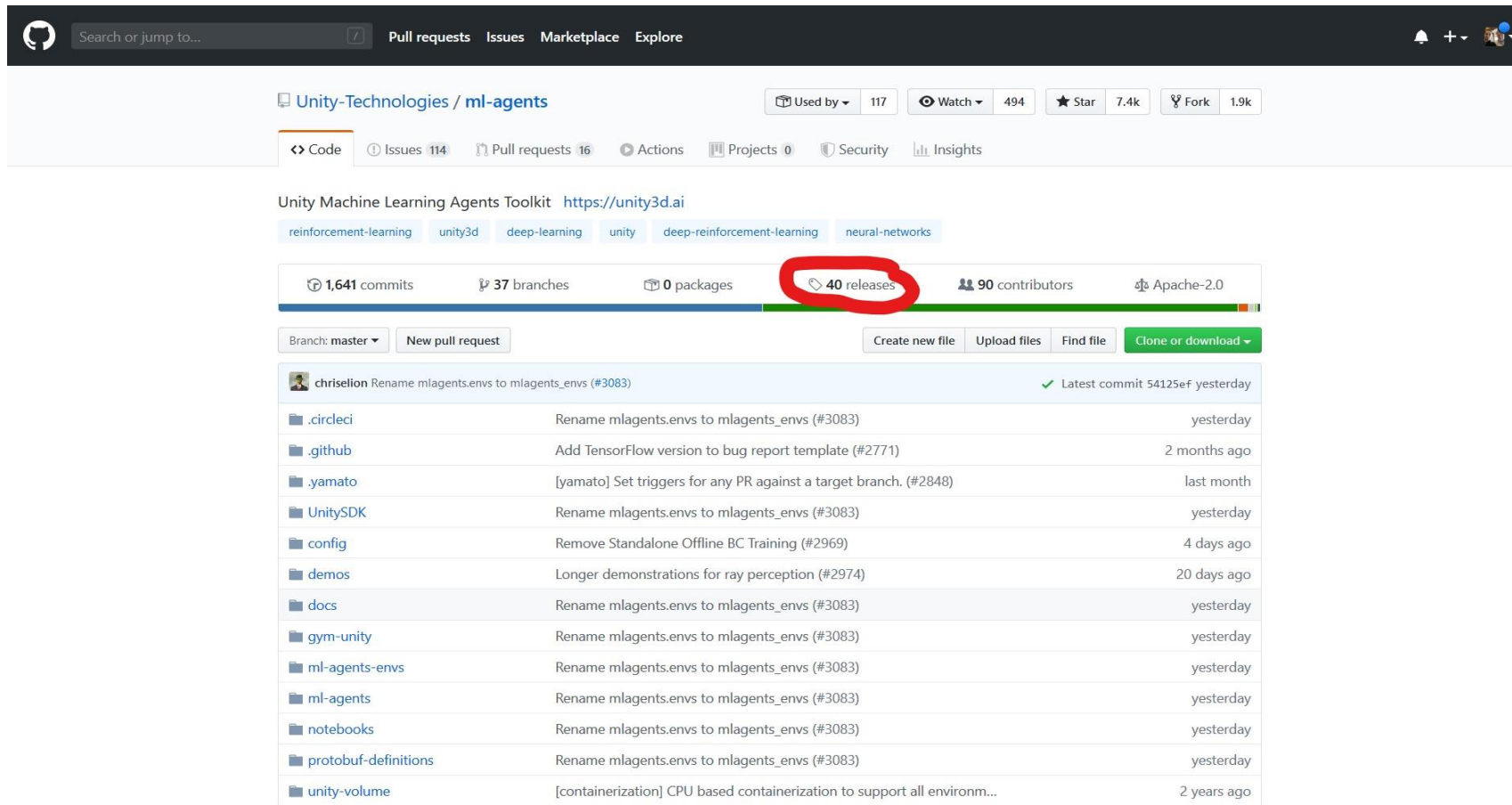
1,641 commits 37 branches 0 packages 40 releases 90 contributors Apache-2.0

Branch: master New pull request Create new file Upload files Find file Clone or download

File	Commit	Time
chriselion	Rename mlagents.envs to mlagents_envs (#3083)	Latest commit 54125ef yesterday
.circleci	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
.github	Add TensorFlow version to bug report template (#2771)	2 months ago
.yamato	[yamato] Set triggers for any PR against a target branch. (#2848)	last month
UnitySDK	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
config	Remove Standalone Offline BC Training (#2969)	4 days ago
demos	Longer demonstrations for ray perception (#2974)	20 days ago
docs	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
gym-unity	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
ml-agents-envs	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
ml-agents	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
notebooks	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
protobuf-definitions	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
unity-volume	[containerization] CPU based containerization to support all environm...	2 years ago

# UNITY ML-AGENTS

[Klikkare su release](#)



Search or jump to... Pull requests Issues Marketplace Explore

Unity-Technologies / ml-agents

Used by 117 Watch 494 Star 7.4k Fork 1.9k

Code Issues 114 Pull requests 16 Actions Projects 0 Security Insights

Unity Machine Learning Agents Toolkit <https://unity3d.ai>

reinforcement-learning unity3d deep-learning unity deep-reinforcement-learning neural-networks

1,641 commits 37 branches 0 packages 40 releases 90 contributors Apache-2.0

Branch: master New pull request Create new file Upload files Find file Clone or download

File	Commit Message	Commit Date
chriselion	Rename mlagents.envs to mlagents_envs (#3083)	Latest commit 54125ef yesterday
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docs	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
gym-unity	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
ml-agents-envs	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
ml-agents	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
notebooks	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
protobuf-definitions	Rename mlagents.envs to mlagents_envs (#3083)	yesterday
unity-volume	[containerization] CPU based containerization to support all environm...	2 years ago

# UNITY ML-AGENTS

Conviene sempre scegliere una release perche' se si riscontra un probelma,  
attraverso la community e' piu' facile risolvere I problemi

The screenshot displays the GitHub interface for the repository `Unity-Technologies / ml-agents`. The repository has 117 users, 494 watchers, 7.4k stars, and 1.9k forks. The `Releases` tab is selected, showing the latest release, `ML-Agents Beta 0.12.1`, which is marked as a `Pre-release`. The release was made by `chriseion` 4 days ago. The release notes highlight `Fixes & Performance Improvements`, including a bug fix for recurrent networks, a fix for the Jupyter environment setup, and added logging for API connection issues. The release assets section shows two assets: `0.12.1.dev1` (3 days ago) and `0.12.1` (4 days ago), both available as `zip` and `tar.gz` files.

Search or jump to... Pull requests Issues Marketplace Explore

Unity-Technologies / ml-agents

Used by 117 Watch 494 Star 7.4k Fork 1.9k

Code Issues 114 Pull requests 16 Actions Projects 0 Security Insights

Releases Tags

Pre-release

0.12.1  
298df2e

## ML-Agents Beta 0.12.1

chriseion released this 4 days ago

### Fixes & Performance Improvements

- Fixed bug that could degrade training for recurrent networks (#3066). If you are on 0.12.0 and using LSTMs to train your agents, we recommend you upgrade to 0.12.1 and retrain your model.
- Fixed bug in the environment setup in a Jupyter notebook (#3068)
- Added extra logging on API versions in port numbers, to help debugging connection issues (#3069)
- Minor documentation fixes (#3070)

Assets 2

0.12.1.dev1  
3 days ago

337760f zip tar.gz

0.12.1

# UNITY ML-AGENTS

<https://github.com/Unity-Technologies/ml-agents/releases/tag/0.11.0>

Download the Source Code from  
the link

The screenshot shows the GitHub repository page for `Unity-Technologies/ml-agents`. The repository has 117 users, 494 watchers, 7.4k stars, and 1.9k forks. The `Releases` tab is selected, showing the release `ML-Agents Beta 0.11.0` by `harperj` on November 4th. The release is marked as a `Pre-release` and is `Verified`. The commit hash is `3d7c4b8`. The release notes are divided into `Major Changes` and `Minor Fixes and Improvements`.

**Major Changes**

- The BroadcastHub has been deprecated. If there is a training Python process, all LearningBrains in the scene will automatically be trained. If there is no Python process, inference will be used.
- The Brain ScriptableObjects have been removed. The Brain Parameters are now on the Agent and are referred to as Behavior Parameters. Make sure the Behavior Parameters is attached to the Agent GameObject.
- The setup for visual observations has changed significantly.
  - Camera resolutions are no longer stored in the Brain Parameters.
  - AgentParameters no longer stores lists of Cameras and RenderTextures
  - To add visual observations to an Agent, you must now attach a CameraSensorComponent or RenderTextureComponent to the agent. The corresponding Camera or RenderTexture can be added to these in the editor, and the resolution and color/grayscale is configured on the component itself.
- The definition of the gRPC service has changed.
- The online BC training feature has been removed.

For instructions on how to migrate from 0.10.x to 0.11.0 see the [Migration Guide](#).

See the updated [Getting Started](#) and [Basic Guide](#) for more information.

**Minor Fixes and Improvements**

- Fixed an exception being thrown when dragging between two screens with different DPIs ([#2782](#))
- Improved hyperparameters for the GridWorld environment using SAC ([#2776](#))
- Fixed crash when SAC is used with Curiosity and Continuous Actions ([#2740](#))
- Sped up processing large vector observations ([#2717](#))
- Fixed bug causing excessive memory usage during inference ([#2722](#))
- Added support for multiple training areas in the GridWorld environment ([#2721](#))
- RayPerception.Perceive() was made abstract and RayPerception2D now correctly overrides it. ([#2788](#))

**Assets** 2

- Source code (zip)
- Source code (tar.gz)

# UNITY ML-AGENTS

```
Anaconda Prompt

(base) C:\Users\ak12>cond env list
'cond' is not recognized as an internal or external command,
operable program or batch file.

(base) C:\Users\ak12>conda env list
# conda environments:
#
base                * C:\Users\ak12\Anaconda3
bpsproxy            C:\Users\ak12\Anaconda3\envs\bpsproxy
coco_test           C:\Users\ak12\Anaconda3\envs\coco_test
coco_test2          C:\Users\ak12\Anaconda3\envs\coco_test2
cocosynth           C:\Users\ak12\Anaconda3\envs\cocosynth
ml-agents           C:\Users\ak12\Anaconda3\envs\ml-agents
ml-agents_0.10.1    C:\Users\ak12\Anaconda3\envs\ml-agents_0.10.1
ml-agents_0.6       C:\Users\ak12\Anaconda3\envs\ml-agents_0.6
ml-agents_0.8       C:\Users\ak12\Anaconda3\envs\ml-agents_0.8
ml-agents_0.9       C:\Users\ak12\Anaconda3\envs\ml-agents_0.9
mla_0.11            C:\Users\ak12\Anaconda3\envs\mla_0.11
mlagents_0.10       C:\Users\ak12\Anaconda3\envs\mlagents_0.10
mlatest            C:\Users\ak12\Anaconda3\envs\mlatest
mrcnn-course        C:\Users\ak12\Anaconda3\envs\mrcnn-course
tf-gpu              C:\Users\ak12\Anaconda3\envs\tf-gpu
tf2                 C:\Users\ak12\Anaconda3\envs\tf2

(base) C:\Users\ak12>conda create -n ml-agents_0.11.0 python=3.7_
```

- Anaconda Setup Enviroment to train:

- Aprire l'Anaconda Prompt
- Creare un enviroment con il seguente comando:
  - `conda create -n ml -agents_0.11.0 python=3.7`
- E premere invio

# UNITY ML-AGENTS

```
Select Anaconda Prompt

certifi      pkgs/main/win-64::certifi-2019.9.11-py37_0
openssl     pkgs/main/win-64::openssl-1.1.1d-he774522_3
pip         pkgs/main/win-64::pip-19.3.1-py37_0
python      pkgs/main/win-64::python-3.7.5-h8c8aaf0_0
setuptools  pkgs/main/win-64::setuptools-41.6.0-py37_0
sqlite      pkgs/main/win-64::sqlite-3.30.1-he774522_0
vc          pkgs/main/win-64::vc-14.1-h0510ff6_4
vs2015_runtime pkgs/main/win-64::vs2015_runtime-14.16.27012-hf0eaf9b_0
wheel       pkgs/main/win-64::wheel-0.33.6-py37_0
wincertstore pkgs/main/win-64::wincertstore-0.2-py37_0

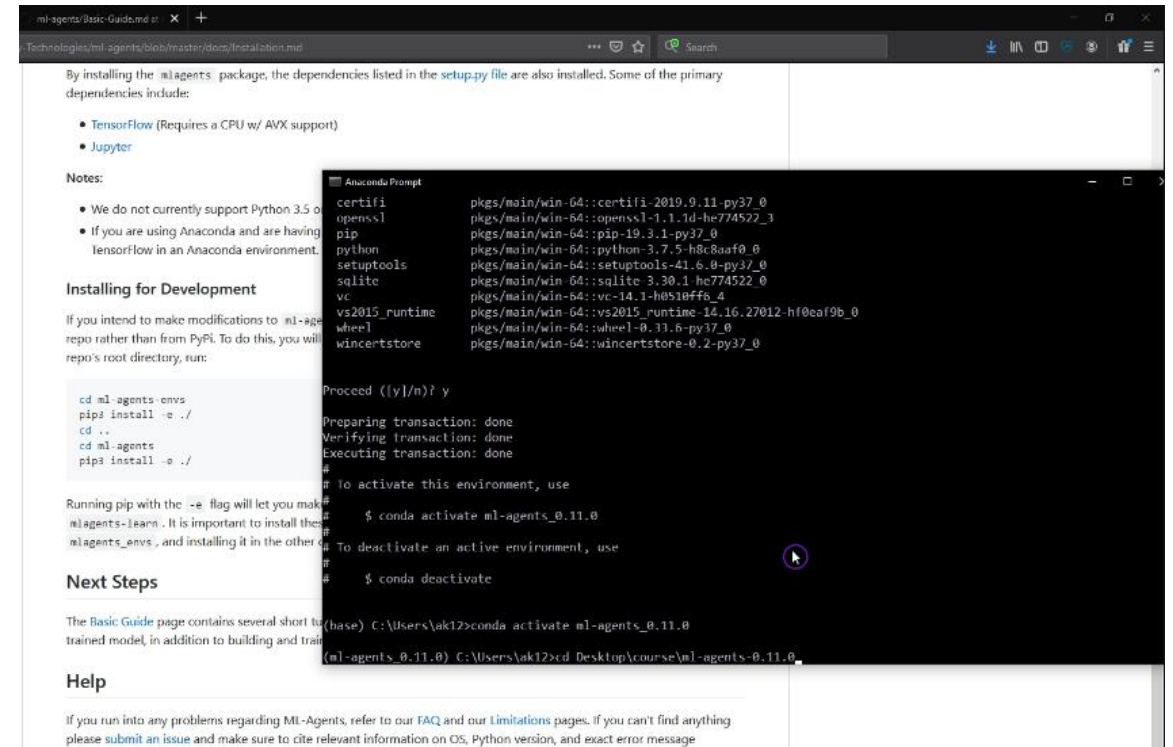
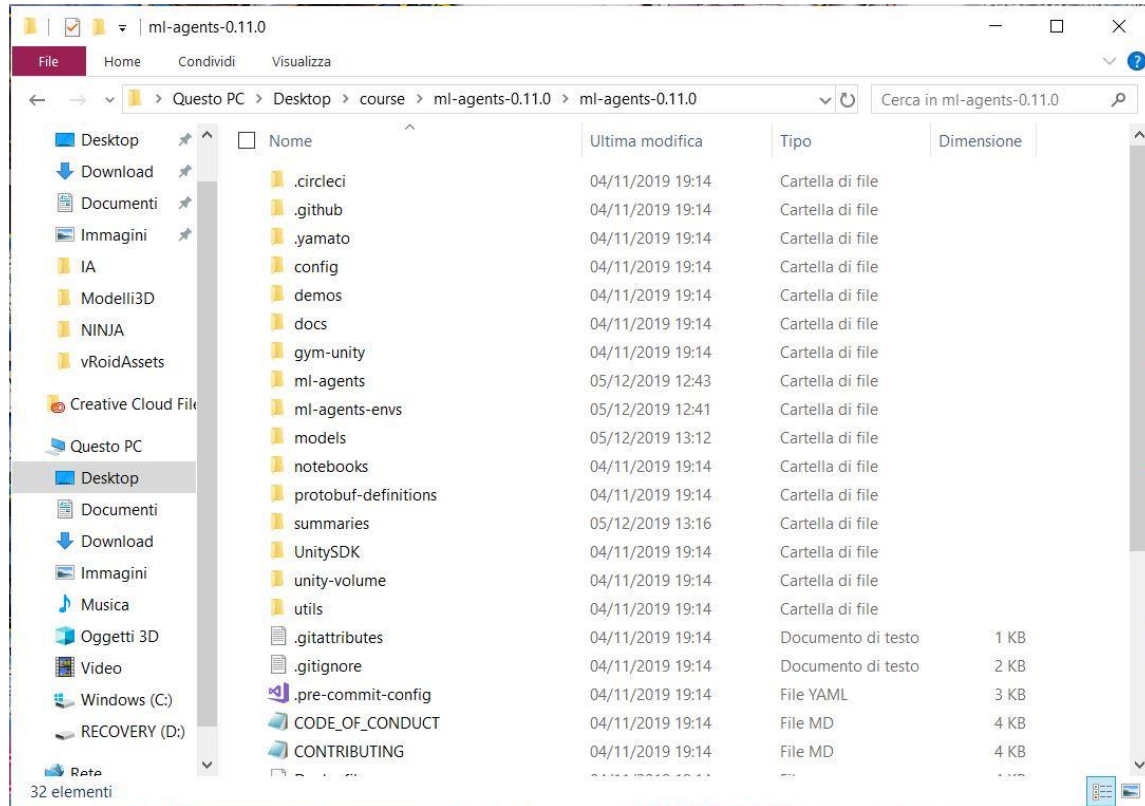
Proceed ([y]/n)? y

Preparing transaction: done
Verifying transaction: done
Executing transaction: done
#
# To activate this environment, use
#
#     $ conda activate ml-agents_0.11.0
#
# To deactivate an active environment, use
#
#     $ conda deactivate

(base) C:\Users\ak12>conda activate ml-agents_0.11.0
(ml-agents 0.11.0) C:\Users\ak12>
```

- Anaconda Setup Enviroment to train:
- conda activate ml-agents\_0.11.0
  - (spoiler: prima di poter addestrare il vostro agente dovrete sempre utilizzare questo comando)





# UNITY ML-AGENTS

Cambiare cartella con il comando cd  
Dove avete messo il source code scaricato precedentemente

dependencies include:

- TensorFlow (Requires a CPU w/ AVX support)
- Jupyter

#### Notes:

- We do not currently support Python 3.5 or 3.6
- If you are using Anaconda and are having trouble installing TensorFlow in an Anaconda environment, see [this link](#).

#### Installing for Development

If you intend to make modifications to `ml-agents`, you should clone the repo rather than from PyPi. To do this, you will need to clone the repo's root directory, run:

```
cd ml-agents-envs
pip install -e ./
cd ..
cd ml-agents
pip install -e ./
```

Running pip with the `-e` flag will let you make changes to the `mlagents-learn`. It is important to install the `mlagents-envs`, and installing it in the other

#### Next Steps

The Basic Guide page contains several short tutorials for training a model, in addition to building and training

#### Help

If you run into any problems regarding ML-Agents, refer to our [FAQ](#) and our [Limitations](#) pages. If you can't find anything, please [submit an issue](#) and make sure to cite relevant information on OS, Python version, and exact error message

```
Anaconda Prompt
11/05/2019 06:47 AM 3,191 CODE_OF_CONDUCT.md
11/05/2019 06:48 AM <DIR> config
11/05/2019 06:47 AM 3,771 CONTRIBUTING.md
11/05/2019 06:48 AM <DIR> demos
11/05/2019 06:47 AM 3,684 Dockerfile
11/05/2019 06:48 AM <DIR> docs
11/05/2019 06:48 AM <DIR> gym-unity
11/05/2019 06:47 AM 11,348 LICENSE
11/05/2019 06:47 AM 435 markdown-link-check.config.json
11/05/2019 06:48 AM <DIR> ml-agents
11/05/2019 06:48 AM <DIR> ml-agents-envs
11/05/2019 06:48 AM <DIR> notebooks
11/05/2019 06:48 AM <DIR> protobuf-definitions
11/05/2019 06:47 AM 5,812 README.md
11/05/2019 06:47 AM 998 run-standalone-build-osx.sh
11/05/2019 06:47 AM 1,682 run-tests-editmode-osx-editor.sh
11/05/2019 06:47 AM 699 setup.cfg
11/05/2019 06:47 AM 286 SURVEY.md
11/05/2019 06:47 AM 235 test_constraints_max_version.txt
11/05/2019 06:47 AM 150 test_constraints_min_version.txt
11/05/2019 06:47 AM 107 test_requirements.txt
11/05/2019 06:48 AM <DIR> unity-volume
11/05/2019 06:48 AM <DIR> UnitySDK
11/05/2019 06:48 AM <DIR> utils
16 File(s) 36,631 bytes
16 Dir(s) 35,606,802,432 bytes free

(ml-agents_0.11.0) C:\Users\ak12\Desktop\course\ml-agents-0.11.0>cd ml-agents-envs
(ml-agents_0.11.0) C:\Users\ak12\Desktop\course\ml-agents-0.11.0\ml-agents-envs>pip install -e ./
```

- Dare I seguenti comandi:
- `cd ml-agents-envs`
- `pip install -e ./`
- Premere Invio

# UNITY ML-AGENTS

The screenshot shows the Unity ML-Agents installation guide on a web browser. The guide includes sections for dependencies, notes, installation for development, next steps, and help. An Anaconda Prompt terminal window is overlaid on the guide, showing the execution of the following commands:

```
Collecting cloudpickle
Using cached https://files.pythonhosted.org/packages/c1/49/334e279c8a3231255725c8e860fa93e72083567625573421db8874/cloudpickle-1.2.2-py2.py3-none-any.whl
Collecting grpcio<=1.11.0
Using cached https://files.pythonhosted.org/packages/8d/bc/60eeb61f97837475dae356afa797c54ea6db986afaf6c6d6320a5a/grpcio-1.24.3-cp37-cp37m-win_amd64.whl
Collecting numpy<2.0,>=1.13.1
Using cached https://files.pythonhosted.org/packages/e9/dd/a177f27765b1e5f94fa879cbee61618807086371d0b6aa232b836b/numpy-1.17.3-cp37-cp37m-win_amd64.whl
Collecting Pillow<=4.2.1
Using cached https://files.pythonhosted.org/packages/70/f4/9dd0b7b0fca09cf4e7a2822031f2157f40d41f0252a89558bdb581/Pillow-6.2.1-cp37-cp37m-win_amd64.whl
Collecting protobuf<=3.6
Using cached https://files.pythonhosted.org/packages/a8/ae/a11b9b0c8e2410b11887881990b71f54ec39b17c4de2b5d850efb5c/protobuf-3.10.0-cp37-cp37m-win_amd64.whl
Collecting six<=1.5.2
Using cached https://files.pythonhosted.org/packages/73/fb/00a976f7280d1fecfe898238ce23f502a721c0ac0ecfedb80e0d9/six-1.12.0-py2.py3-none-any.whl
Requirement already satisfied: setuptools in c:\users\ak12\anaconda3\envs\ml-agents_0.11.0\lib\site-packages (from protobuf<=3.6>=>ml-agents-envs==0.11.0) (41.6.0.post20191030)
Installing collected packages: cloudpickle, six, grpcio, numpy, Pillow, protobuf, ml-agents-envs
Running setup.py develop for ml-agents-envs
Successfully installed Pillow-6.2.1 cloudpickle-1.2.2 grpcio-1.24.3 ml-agents-envs numpy-1.17.3 protobuf-3.10.0 six-1.12.0

(ml-agents_0.11.0) C:\Users\ak12\Desktop\course\ml-agents-0.11.0\ml-agents-envs>cd ..
(ml-agents_0.11.0) C:\Users\ak12\Desktop\course\ml-agents-0.11.0>cd ml-agents
(ml-agents_0.11.0) C:\Users\ak12\Desktop\course\ml-agents-0.11.0\ml-agents>pip install -e ./
```

# UNITY ML-AGENTS

• A questo punto una volta installato eseguite questi 3 comandi in ordine:

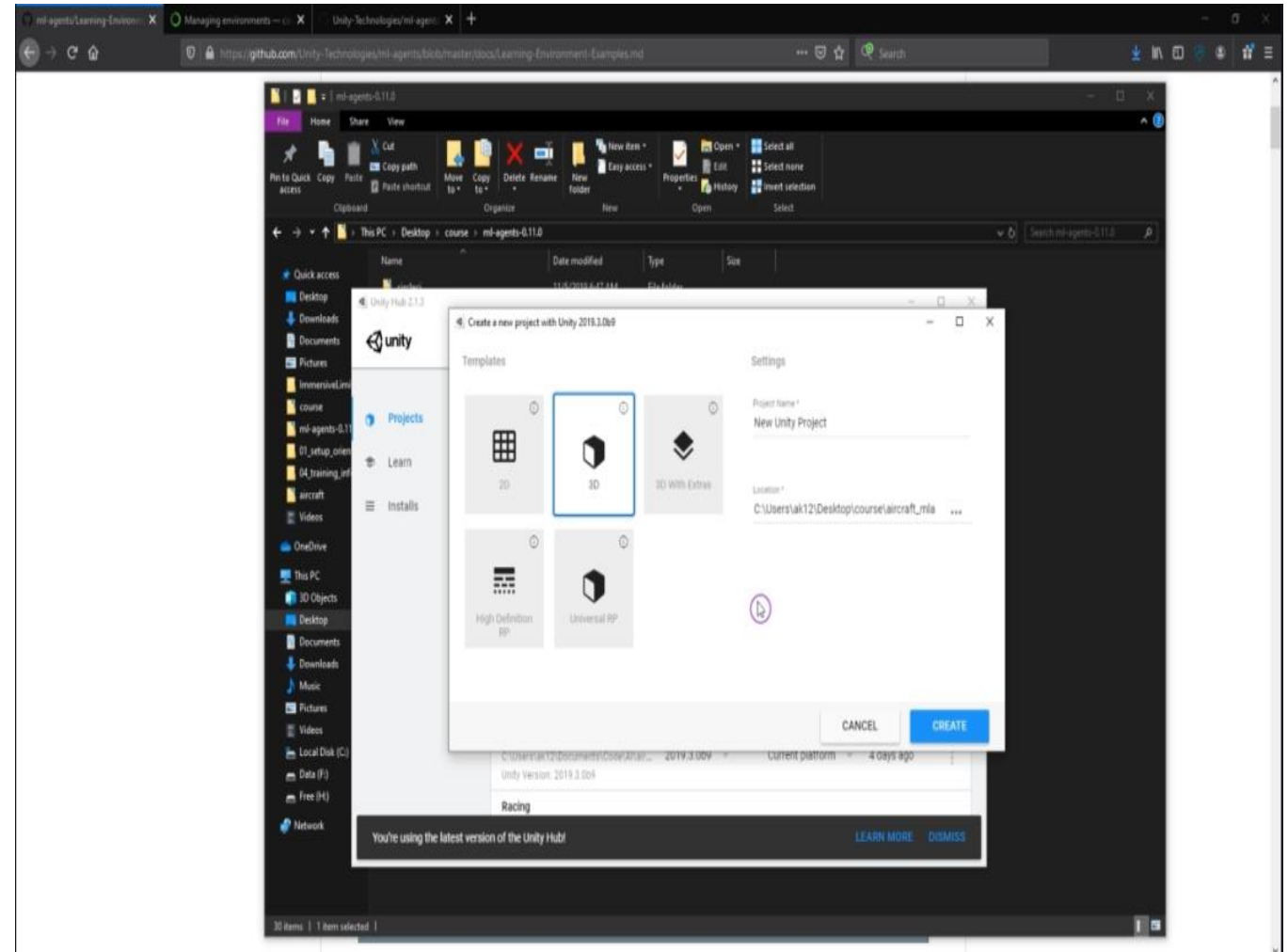
- `cd ..`
- `cd ml-agents`
- `Pip install -e ./`
- Premere invio

# UNITY ML-AGENTS

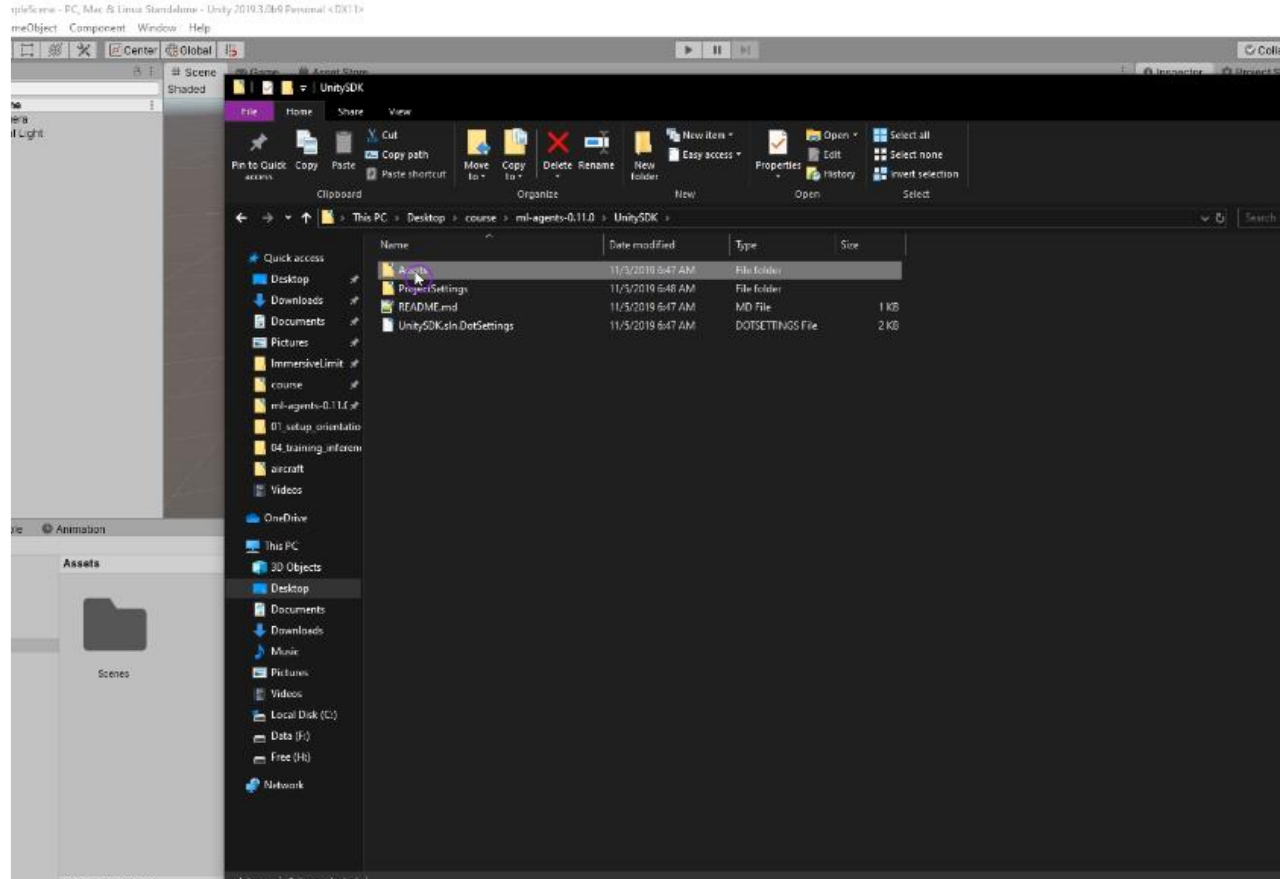
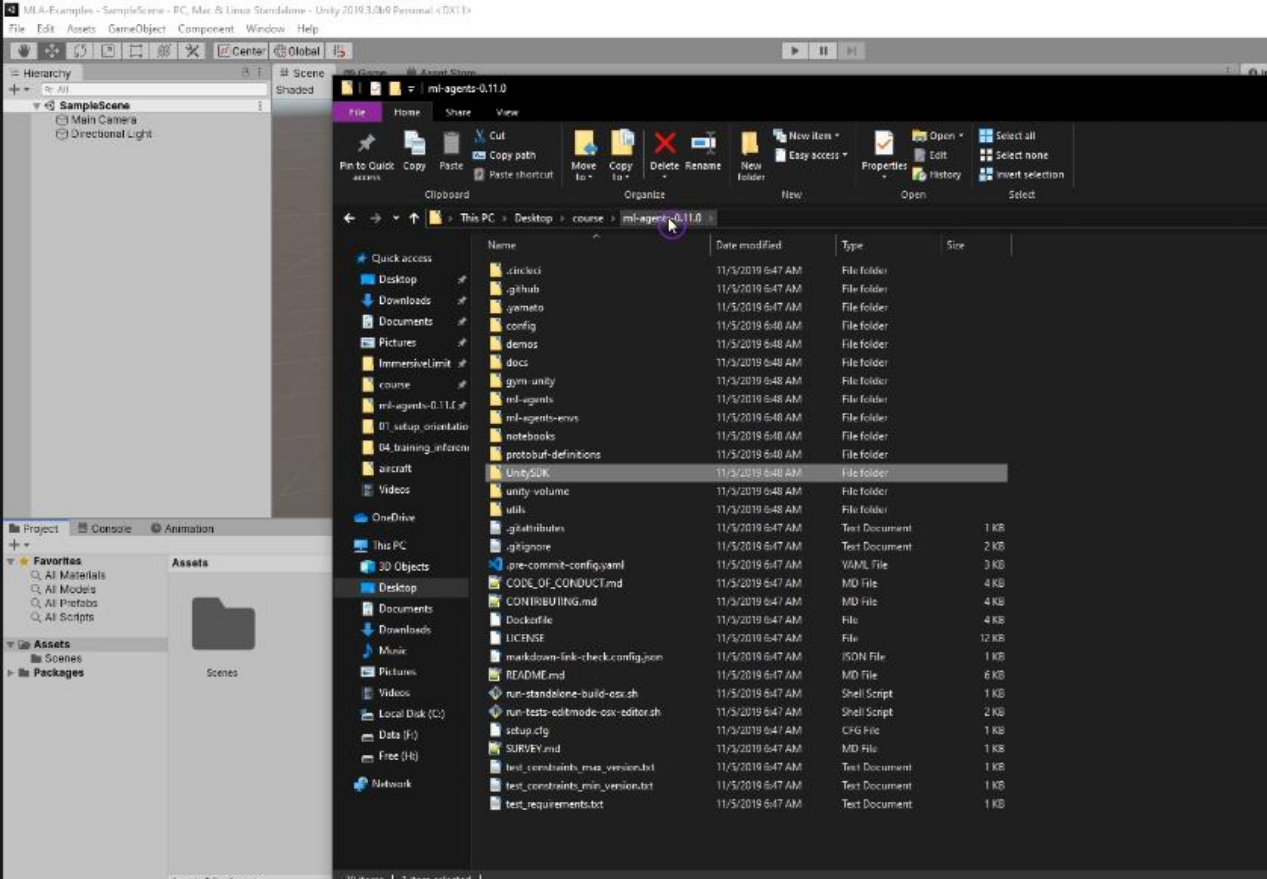
Se e' andato tutto bene  
COMPLIMENTI!!!!!!!

Creare un nuovo progetto su  
Unity

---







# UNITY ML-AGENTS

Adesso aprite la cartella dove avete messo il SourceCode scaricato! Cliccate su UnitySdk e dopo di che cliccate sulla Cartella Assets



# UNITY ML-AGENTS

Adesso fate un bel drag and drop della cartella ML-Agents dentro il vostro progetto Unity e siamo finalmente pronti per fare il training!!!!