

# Deep Neural Network Library (DNNL), Installing Miniconda

<https://github.com/intel/mkl-dnn>

Intel DNNL, wird automatisch installiert bei TF

[https://software.intel.com/en-us/articles/intel-optimization-for-tensorflow-installation-guide#Anaconda\\_main\\_linux](https://software.intel.com/en-us/articles/intel-optimization-for-tensorflow-installation-guide#Anaconda_main_linux)

Anaconda or Miniconda

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

[https://software.intel.com/en-us/articles/intel-optimization-for-tensorflow-installation-guide#Anaconda\\_main\\_linux](https://software.intel.com/en-us/articles/intel-optimization-for-tensorflow-installation-guide#Anaconda_main_linux)

```
i84177-4:Downloads lindne03$ sh ./Miniconda3-latest-MacOSX-x86_64.sh
```

```
Welcome to Miniconda3 4.7.12
```

```
In order to continue the installation process, please review the license agreement.
```

```
Please, press ENTER to continue
```

```
>>>
```

```
=====
Miniconda End User License Agreement
=====
```

```
....
```

```
Do you accept the license terms? [yes|no]
```

```
[no] >>> yes
```

```
Miniconda3 will now be installed into this location:
```

```
/Users/lindne03/miniconda3
```

- Press ENTER to confirm the location
- Press CTRL-C to abort the installation
- Or specify a different location below

```
[/Users/lindne03/miniconda3] >>>
```

```
PREFIX=/Users/lindne03/miniconda3
```

Unpacking payload ...  
Collecting package metadata (current\_repodata.json): done  
Solving environment: done

## ## Package Plan ##

environment location: /Users/lindne03/miniconda3

added / updated specs:

- asn1crypto==1.2.0=py37\_0
- ca-certificates==2019.10.16=0
- certifi==2019.9.11=py37\_0
- cffi==1.13.0=py37hb5b8e2f\_0
- chardet==3.0.4=py37\_1003
- conda-package-handling==1.6.0=py37h1de35cc\_0
- conda==4.7.12=py37\_0
- cryptography==2.8=py37ha12b0ac\_0
- idna==2.8=py37\_0
- libcxx==4.0.1=hcfea43d\_1
- libcxxabi==4.0.1=hcfea43d\_1
- libedit==3.1.20181209=hb402a30\_0
- libffi==3.2.1=h475c297\_4
- ncurses==6.1=h0a44026\_1
- openssl==1.1.1d=h1de35cc\_3
- pip==19.3.1=py37\_0
- pycosat==0.6.3=py37h1de35cc\_0
- pycparser==2.19=py37\_0
- pyopenssl==19.0.0=py37\_0
- pysocks==1.7.1=py37\_0
- python.app==2=py37\_9
- python==3.7.4=h359304d\_1
- readline==7.0=h1de35cc\_5
- requests==2.22.0=py37\_0
- ruamel\_yaml==0.15.46=py37h1de35cc\_0
- setuptools==41.4.0=py37\_0
- six==1.12.0=py37\_0
- sqlite==3.30.0=ha441bb4\_0
- tk==8.6.8=ha441bb4\_0
- tqdm==4.36.1=py\_0
- urllib3==1.24.2=py37\_0
- wheel==0.33.6=py37\_0
- xz==5.2.4=h1de35cc\_4
- yaml==0.1.7=hc338f04\_2
- zlib==1.2.11=h1de35cc\_3

The following NEW packages will be INSTALLED:

asn1crypto	pkgs/main/osx-64::asn1crypto-1.2.0-py37_0
ca-certificates	pkgs/main/osx-64::ca-certificates-2019.10.16-0
certifi	pkgs/main/osx-64::certifi-2019.9.11-py37_0
cffi	pkgs/main/osx-64::cffi-1.13.0-py37hb5b8e2f_0

```

chardet      pkgs/main/osx-64::chardet-3.0.4-py37_1003
conda        pkgs/main/osx-64::conda-4.7.12-py37_0
conda-package-han~ pkgs/main/osx-64::conda-package-handling-1.6.0-
py37h1de35cc_0
cryptography pkgs/main/osx-64::cryptography-2.8-py37ha12b0ac_0
idna         pkgs/main/osx-64::idna-2.8-py37_0
libcxx       pkgs/main/osx-64::libcxx-4.0.1-hcfea43d_1
libcxxabi    pkgs/main/osx-64::libcxxabi-4.0.1-hcfea43d_1
libedit      pkgs/main/osx-64::libedit-3.1.20181209-hb402a30_0
libffi       pkgs/main/osx-64::libffi-3.2.1-h475c297_4
ncurses      pkgs/main/osx-64::ncurses-6.1-h0a44026_1
openssl      pkgs/main/osx-64::openssl-1.1.1d-h1de35cc_3
pip          pkgs/main/osx-64::pip-19.3.1-py37_0
pycosat      pkgs/main/osx-64::pycosat-0.6.3-py37h1de35cc_0
pyparser     pkgs/main/osx-64::pyparser-2.19-py37_0
pyopenssl    pkgs/main/osx-64::pyopenssl-19.0.0-py37_0
pysocks      pkgs/main/osx-64::pysocks-1.7.1-py37_0
python       pkgs/main/osx-64::python-3.7.4-h359304d_1
python.app   pkgs/main/osx-64::python.app-2-py37_9
readline     pkgs/main/osx-64::readline-7.0-h1de35cc_5
requests     pkgs/main/osx-64::requests-2.22.0-py37_0
ruamel_yaml  pkgs/main/osx-64::ruamel_yaml-0.15.46-py37h1de35cc_0
setuptools   pkgs/main/osx-64::setuptools-41.4.0-py37_0
six          pkgs/main/osx-64::six-1.12.0-py37_0
sqlite       pkgs/main/osx-64::sqlite-3.30.0-ha441bb4_0
tk           pkgs/main/osx-64::tk-8.6.8-ha441bb4_0
tqdm         pkgs/main/noarch::tqdm-4.36.1-py_0
urllib3      pkgs/main/osx-64::urllib3-1.24.2-py37_0
wheel        pkgs/main/osx-64::wheel-0.33.6-py37_0
xz           pkgs/main/osx-64::xz-5.2.4-h1de35cc_4
yaml         pkgs/main/osx-64::yaml-0.1.7-hc338f04_2
zlib         pkgs/main/osx-64::zlib-1.2.11-h1de35cc_3

```

Preparing transaction: done

Executing transaction: done

installation finished.

Do you wish the installer to initialize Miniconda3

by running conda init? [yes|no]

[yes] >>>

```

no change  /Users/lindne03/miniconda3/condabin/conda
no change  /Users/lindne03/miniconda3/bin/conda
no change  /Users/lindne03/miniconda3/bin/conda-env
no change  /Users/lindne03/miniconda3/bin/activate
no change  /Users/lindne03/miniconda3/bin/deactivate
no change  /Users/lindne03/miniconda3/etc/profile.d/conda.sh
no change  /Users/lindne03/miniconda3/etc/fish/conf.d/conda.fish
no change  /Users/lindne03/miniconda3/shell/condabin/Conda.psm1
no change  /Users/lindne03/miniconda3/shell/condabin/conda-hook.ps1
no change  /Users/lindne03/miniconda3/lib/python3.7/site-packages/xontrib/conda.xsh
no change  /Users/lindne03/miniconda3/etc/profile.d/conda.csh
modified   /Users/lindne03/.bash_profile

```

==> For changes to take effect, close and re-open your current shell. <==

If you'd prefer that conda's base environment not be activated on startup, set the `auto_activate_base` parameter to false:

```
conda config --set auto_activate_base false
```

Thank you for installing Miniconda3!

## 2. Deep Neural Network Library (DNNL), Installing Tensorflow (Binary)

Last login: Sun Nov 17 17:22:18 on ttys000

The default interactive shell is now zsh.

To update your account to use zsh, please run ``chsh -s /bin/zsh``.

For more details, please visit <https://support.apple.com/kb/HT208050>.

```
(base) i84177-4:~ lindne03$ conda
```

```
conda  conda-env
```

```
(base) i84177-4:~ lindne03$ conda install tensorflow
```

```
Collecting package metadata (current_repodata.json): done
```

```
Solving environment: done
```

```
## Package Plan ##
```

```
environment location: /Users/lindne03/miniconda3
```

```
added / updated specs:
```

```
- tensorflow
```

The following packages will be downloaded:

package	build	
----- -----		
_tflow_select-2.3.0	mkl	3 KB
absl-py-0.8.1	py37_0	161 KB
astor-0.8.0	py37_0	46 KB
blas-1.0	mkl	6 KB
c-ares-1.15.0	h1de35cc_1001	73 KB
gast-0.2.2	py37_0	154 KB
google-pasta-0.1.7	py_0	41 KB
grpcio-1.16.1	py37h044775b_1	840 KB
h5py-2.9.0	py37h3134771_0	789 KB
hdf5-1.10.4	hfa1e0ec_0	3.0 MB
intel-openmp-2019.4	233	887 KB
keras-applications-1.0.8	py_0	33 KB

keras-preprocessing-1.1.0		py_1	36 KB
libgfortran-3.0.1		h93005f0_2	426 KB
libprotobuf-3.9.2		hd9629dc_0	2.5 MB
markdown-3.1.1		py37_0	117 KB
mkl-2019.4		233	101.9 MB
mkl-service-2.3.0		py37hfbe908c_0	201 KB
mkl_fft-1.0.15		py37h5e564d8_0	157 KB
mkl_random-1.1.0		py37ha771720_0	275 KB
numpy-1.17.3		py37h4174a10_0	4 KB
numpy-base-1.17.3		py37h6575580_0	4.9 MB
opt_einsum-3.1.0		py_0	54 KB
protobuf-3.9.2		py37h0a44026_0	620 KB
scipy-1.3.1		py37h1410ff5_0	12.4 MB
tensorboard-2.0.0		pyhb230dea_0	3.2 MB
tensorflow-2.0.0		mkl_py37hda344b4_0	4 KB
tensorflow-base-2.0.0		mkl_py37h66b1bf0_0	67.4 MB
tensorflow-estimator-2.0.0		pyh2649769_0	250 KB
termcolor-1.1.0		py37_1	8 KB
webencodings-0.5.1		py37_1	19 KB
werkzeug-0.16.0		py_0	255 KB
wrapt-1.11.2		py37h1de35cc_0	45 KB

-----  
Total: 200.7 MB

The following NEW packages will be INSTALLED:

_tfflow_select	pkgs/main/osx-64::_tfflow_select-2.3.0-mkl
absl-py	pkgs/main/osx-64::absl-py-0.8.1-py37_0
astor	pkgs/main/osx-64::astor-0.8.0-py37_0
blas	pkgs/main/osx-64::blas-1.0-mkl
c-ares	pkgs/main/osx-64::c-ares-1.15.0-h1de35cc_1001
gast	pkgs/main/osx-64::gast-0.2.2-py37_0
google-pasta	pkgs/main/noarch::google-pasta-0.1.7-py_0
grpcio	pkgs/main/osx-64::grpcio-1.16.1-py37h044775b_1
h5py	pkgs/main/osx-64::h5py-2.9.0-py37h3134771_0
hdf5	pkgs/main/osx-64::hdf5-1.10.4-hfa1e0ec_0
intel-openmp	pkgs/main/osx-64::intel-openmp-2019.4-233
keras-applications	pkgs/main/noarch::keras-applications-1.0.8-py_0
keras-preprocessi~	pkgs/main/noarch::keras-preprocessing-1.1.0-py_1
libgfortran	pkgs/main/osx-64::libgfortran-3.0.1-h93005f0_2
libprotobuf	pkgs/main/osx-64::libprotobuf-3.9.2-hd9629dc_0
markdown	pkgs/main/osx-64::markdown-3.1.1-py37_0
mkl	pkgs/main/osx-64::mkl-2019.4-233
mkl-service	pkgs/main/osx-64::mkl-service-2.3.0-py37hfbe908c_0
mkl_fft	pkgs/main/osx-64::mkl_fft-1.0.15-py37h5e564d8_0
mkl_random	pkgs/main/osx-64::mkl_random-1.1.0-py37ha771720_0
numpy	pkgs/main/osx-64::numpy-1.17.3-py37h4174a10_0
numpy-base	pkgs/main/osx-64::numpy-base-1.17.3-py37h6575580_0
opt_einsum	pkgs/main/noarch::opt_einsum-3.1.0-py_0
protobuf	pkgs/main/osx-64::protobuf-3.9.2-py37h0a44026_0
scipy	pkgs/main/osx-64::scipy-1.3.1-py37h1410ff5_0
tensorboard	pkgs/main/noarch::tensorboard-2.0.0-pyhb230dea_0

```
tensorflow      pkgs/main/osx-64::tensorflow-2.0.0-mkl_py37hda344b4_0
tensorflow-base pkgs/main/osx-64::tensorflow-base-2.0.0-mkl_py37h66b1bf0_0
tensorflow-estima~ pkgs/main/noarch::tensorflow-estimator-2.0.0-pyh2649769_0
termcolor       pkgs/main/osx-64::termcolor-1.1.0-py37_1
webencodings    pkgs/main/osx-64::webencodings-0.5.1-py37_1
werkzeug        pkgs/main/noarch::werkzeug-0.16.0-py_0
wrapit          pkgs/main/osx-64::wrapit-1.11.2-py37h1de35cc_0
```

Proceed ([y]/n)? y

### Downloading and Extracting Packages

```
mkl_fft-1.0.15 | 157 KB |
#####
##### | 100%
gast-0.2.2 | 154 KB |
#####
##### | 100%
mkl-service-2.3.0 | 201 KB |
#####
##### | 100%
mkl_random-1.1.0 | 275 KB |
#####
##### | 100%
astor-0.8.0 | 46 KB |
#####
##### | 100%
opt_einsum-3.1.0 | 54 KB |
#####
##### | 100%
tensorboard-2.0.0 | 3.2 MB |
#####
##### | 100%
keras-applications-1 | 33 KB |
#####
##### | 100%
scipy-1.3.1 | 12.4 MB |
#####
##### | 100%
tensorflow-base-2.0. | 67.4 MB |
#####
##### | 100%
_tflow_select-2.3.0 | 3 KB |
#####
##### | 100%
c-ares-1.15.0 | 73 KB |
#####
##### | 100%
numpy-base-1.17.3 | 4.9 MB |
#####
##### | 100%
```

webencodings-0.5.1 | 19 KB |  
#####  
##### | 100%  
intel-openmp-2019.4 | 887 KB |  
#####  
##### | 100%  
numpy-1.17.3 | 4 KB |  
#####  
##### | 100%  
werkzeug-0.16.0 | 255 KB |  
#####  
##### | 100%  
absl-py-0.8.1 | 161 KB |  
#####  
##### | 100%  
hdf5-1.10.4 | 3.0 MB |  
#####  
##### | 100%  
protobuf-3.9.2 | 620 KB |  
#####  
##### | 100%  
google-pasta-0.1.7 | 41 KB |  
#####  
##### | 100%  
mkl-2019.4 | 101.9 MB |  
#####  
##### | 100%  
markdown-3.1.1 | 117 KB |  
#####  
##### | 100%  
grpcio-1.16.1 | 840 KB |  
#####  
##### | 100%  
h5py-2.9.0 | 789 KB |  
#####  
##### | 100%  
tensorflow-2.0.0 | 4 KB |  
#####  
##### | 100%  
blas-1.0 | 6 KB |  
#####  
##### | 100%  
wrapt-1.11.2 | 45 KB |  
#####  
##### | 100%  
keras-preprocessing- | 36 KB |  
#####  
##### | 100%  
libgfortran-3.0.1 | 426 KB |  
#####  
##### | 100%

```
libprotobuf-3.9.2 | 2.5 MB |
#####
##### | 100%
tensorflow-estimator | 250 KB |
#####
##### | 100%
termcolor-1.1.0 | 8 KB |
#####
##### | 100%
Preparing transaction: done
Verifying transaction: done
Executing transaction: done
```

## Sanity Check failed!

```
(base) i84177-4:~ lindne03$ python -c "import tensorflow;
print(tensorflow.pywrap_tensorflow.IsMklEnabled())"
Traceback (most recent call last):
  File "<string>", line 1, in <module>
AttributeError: module 'tensorflow' has no attribute 'pywrap_tensorflow'
(base) i84177-4:~ lindne03$
```