

# Keras

## tensorflow

```
git clone ...
```

edit configure.py and modify `TFMAXBAZELVERSION = '1.2.1'`

```
./configure
```

```
this produce .tfconfigure.bazelrc <code> build -actionenv
PYTHONBINPATH="/lab/gianoobserver/lib/bin/python" build -actionenv
PYTHONLIBPATH="/lab/gianoobserver/lib/lib/python3.8/site-packages" build
-pythonpath="/lab/gianoobserver/lib/bin/python" build:xla -define withxlasupport=true build
-config=xla build -actionenv CUDAToolkitPath="/usr/local/cuda" build -actionenv
TFCUDACOMPUTECAPABILITIES="6.1" build -actionenv LD_LIBRARY_PATH="/lab/dnn/lib/lib" build
-actionenv GCCHOSTCOMPILERPATH="/usr/bin/gcc-8" build -config=cuda build:opt -copt=-
march=native build:opt -copt=-Wno-sign-compare build:opt -hostcopt=-march=native build:opt
-define withdefaultoptimizations=true test -flakytestattempts=3 test -testsizefilters=small,medium
test -testtagfilters=-benchmark-test,-nooss,-gpu,-ossserial test -buildtagfilters=-benchmark-test,-
nooss,-gpu build -actionenv TFCONFIGURE_IOS="0" </code>
```

compile

```
bazel build //tensorflow/tools/pip_package:build_pip_package
```

## Export protobuf

prereq

```
bazel build tensorflow/python/tools:freeze_graph
```

```
import argparse
ap = argparse.ArgumentParser()
ap.add_argument('--input', required=True)
ap.add_argument('--output', default="/tmp/model/ckpt")
args = ap.parse_args()

from keras import backend as K
from keras.models import load_model
import tensorflow as tf

K.set_learning_phase(0)

# create model and load weights or ...
# model = create_model()
```

```
# model.load_weights(args.input)

# ... load h5 model
load_model(args.input)

saver = tf.train.Saver()
saver.save(K.get_session(), args.default)
print("Output node needed in freeze_graph: %s" % model.output.op.name)
print("Model created in: %s" % args.output)
```

result

```
/tmp/model
├── checkpoint
├── ckpt.data-00000-of-00001
├── ckpt.index
└── ckpt.meta
```

freeze

```
bazel-bin/tensorflow/python/tools/freeze_graph \
--input_meta_graph=/tmp/model/ckpt.meta \
--input_checkpoint=/tmp/model/ckpt \
--output_graph=frozen_graph.pb \
--input_binary \
--output_node_names="previous output node name"
```

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