

## Install and Build Instructions:

clone the project from <https://github.com/jaidmin/styletransfer>

Download the neural network parameters from here: <https://drive.google.com/open?id=1QvfzurQJyLTz4SxLpNXdy866VeQuUvWp>

Put the weights file in the “weights” folder

## If you want to use docker

### CPU:

```
git clone --recursive https://github.com/tensorflow/haskell.git
tensorflow-haskell
cd tensorflow-haskell
IMAGE_NAME=tensorflow/haskell:v0
docker build -t $IMAGE_NAME docker
stack --docker --docker-image=$IMAGE_NAME setup
stack --docker --docker-image=$IMAGE_NAME build
stack --docker --docker-image=$IMAGE_NAME exec styletransfer-exe
"obama224.jpg" "vangogh224.jpg"
```

The command is structured as follows

```
stack exec styletransfer-exe "<name of the content image>"
"<Name of the style image>" <number of optimization steps>
The recommended nr of optimization steps is 1500
```

### GPU

```
IMAGE_NAME=tensorflow/haskell:1.3.0-gpu
docker build -t $IMAGE_NAME docker/gpu
```

We need stack to use nvidia-docker by using a 'docker' wrapper script. This will shadow the normal docker command.

```
ln -s `pwd`/tools/nvidia-docker-wrapper.sh <somewhere in your
path>/docker
stack --docker --docker-image=$IMAGE_NAME setup
stack --docker --docker-image=$IMAGE_NAME build

stack --docker --docker-image=$IMAGE_NAME exec styletransfer-exe
"obama224.jpg" "vangogh224.jpg" 3000
```

The command is structured as follows

```
stack exec styletransfer-exe "<name of the content image>"  
"<Name of the style image>" <number of optimization steps>
```

The recommended nr of optimization steps is 1500

## Not Docker (linux)

Install the following packages from your package repository

1. libprotobuf (the devel version)
2. libtensorflow (cpu or gpu depending on whether you want to use your cpu or gpu)
3. happy
4. alex
5. libsnappy-dev
6. libncurses5-dev

Example command for ubuntu

```
apt-get install -y \  
    # Required by snappy-frames dependency.  
    libsnappy-dev \  
    git \  
    happy \  
    alex \  
    # Avoids /usr/bin/ld: cannot find -ltinfo  
    libncurses5-dev \  

```

```
curl -O -L  
https://github.com/google/protobuf/releases/download/v3.2.0/protoc-3.2.0-linux-x86\_64.zip
```

```
unzip -d /usr/local protoc-3.2.0-linux-x86_64.zip bin/protoc
```

```
chmod 755 /usr/local/bin/protoc
```

```
curl -O  
https://storage.googleapis.com/tensorflow/libtensorflow/libtensorflow-cpu-linux-x86\_64-1.3.0.tar.gz
```

```
tar xzf libtensorflow-cpu-linux-x86_64-1.3.0.tar.gz -C /usr/local
```

```
ldconfig
```

Then build the project:

```
stack build
```

And execute it:

```
stack exec styletransfer-exe "obama224.jpg" "vangogh224.jpg" 3000
```

The command is structured as follows

```
stack exec styletransfer-exe "<name of the content image>" "<Name of  
the style image>" <number of optimization steps>
```

The recommended nr of optimization steps is 1500

For this to work, the content image needs to be in the “content\_images” directory and the style image needs to be in the “style\_images”.

Beware that in order to use the gpu you need to have cuda 8 and cudnn (recommended version 5.1) installed (here are installation instructions for ubuntu [todo put link here])

Note this program can be very slow if running on the cpu. If you can use the gpu, if you have any questions setting up the necessary installs please email ([s1714654@ed.ac.uk](mailto:s1714654@ed.ac.uk))

If you use the cpu only image of size 224x224 are recommended, you have to resize them yourself.

If you use the gpu you can use bigger images, but anything bigger than 1000x1000 will take a very long time. The images are automatically resized to square format.