Hardware specifications

All code will run over CPU with recommended memory above 4GB. But running Deep Convolutional Network over CPU may be prohibitively slow, so it is recommended to use CUDA-enabled GPU for deep learning activities involving images with convolution or transpose convolution.

OS Requirement: Linux or Mac

Software specifications

Python
Available for all three major operating systems — Microsoft Windows, macOS, and Linux — and the installer, as well as the documentation, can be downloaded from the official Python website: https://www.python.org

You can check your current default version of Python by executing
$ python -V

This book is written for Python version 2.7.13. Although most of the code examples may also be compatible with Python >= 2.7.13. If you decide to use Python 3 to execute the code examples, please make sure that you know about the major differences between the two Python versions can be found at https://wiki.python.org/moin/Python2orPython3.

Pip

The additional python packages that we will be used throughout this book can be installed via the pip installer program. More information about pip can be found at https://packaging.python.org/tutorials/installing-packages/.

After we have successfully installed Python, we can execute pip from the command line terminal to install additional packages:

pip install SomePackage
(where SomePackage is a placeholder for numpy, scipy, tensorflow, keras and so forth).

Already installed packages can be updated via the --upgrade flag:

pip install SomePackage –upgrade

Docker
A Docker open source container software platform that packages applications with all of the parts it needs in "containers," allowing them to be portable among systems.

It can be downloaded from: https://docs.docker.com/engine/installation/

Apache Spark

Apache Spark is a fast, in-memory distributed data processing engine with elegant and expressive APIs to allow data workers to efficiently execute streaming, machine learning or SQL workloads that require fast iterative access to datasets.

Download latest Apache Spark, (https://spark.apache.org/downloads.html) then extract the zip/tar.gz
Next set the Spark home in your bashrc file or /etc/profile file such as:
export SPARK_HOME=<path to Spark extracted directory>
After setting home in the bashrc or /etc/profile and verify the Spark installation by running the following command from the

$SPARK_HOME/bin directory.
```
./spark-shell --master local[2]
```

More details follow the link: https://spark.apache.org/docs/latest/

Amazon Webservice (AWS)

AWS offers a very generous 12 months free trial. More information: https://aws.amazon.com/free/

Google Cloud Platform (GCP)

GCP also offer 12 months free trial with $300 credit and added a Free Tier that isn't time-limited. More information: https://cloud.google.com/free/

Postman Rest Client

A powerful GUI platform to make Rest API development faster & easier. If you have Chrome browser, then it can be install as plugin with chrome as well. More information about set up:
https://www.getpostman.com/docs/postman/launching_postman/installation_and_updates