Software specifications

Chapter number	Software required (With version)	Free/Proprietary	If proprietary, can code testing be performed using a trial version	If proprietary, then cost of the software	Download links to the software	**Hardware specifications**	OS required
1	CUDA	Free			https://developer.nvidia.com/cuda-downloads	Computer with GPU	Windows/Linux with GPU
2	CUDNN	Free			https://developer.nvidia.com/rdp/cudnn-download	Computer with GPU	Windows/Linux with GPU
3	Python	Free			https://www.python.org/downloads/	Any computer	Windows/Mac/Ubuntu
4	OpenCV	Free			https://opencv.org/	Any computer	Windows/Mac/Ubuntu
5	TensorFlow	Free			https://www.tensorflow.org/	Any computer	Windows/Mac/Ubuntu
6	TensorFlow Serving	Free			https://www.tensorflow.org/	Any computer	Ubuntu
7	Keras	Free			https://keras.io/	Any computer	Windows/Mac/Ubuntu

Detailed installation steps (software-wise)

The steps should be listed in a way that it prepares the system environment to be able to test the codes of the book.

1. CUDA

a. sudo dpkg -i cuda-repo-ubuntu1604-8-0-local-ga2_8.0.61-1_amd64.deb
b. sudo apt-get update sudo apt-get install cuda
c. sudo apt-get install cuda-drivers

2. CUDNN
    a. tar -xvzf cudnn-8.0-linux-x64-v5.1.tgz
    b. cd cuda
    c. sudo cp -P include/cudnn.h /usr/include
    d. sudo cp -P lib64/libcudnn* /usr/lib/x86_64-linux-gnu/
    e. sudo chmod a+r /usr/lib/x86_64-linux-gnu/libcudnn*
3. Python
    a. sudo pip3 install numpy scipy scikit-learn pillow h5py
4. OpenCV
    a. sudo apt-get install python-dev
    b. sudo apt-get install build-essential
    c. sudo apt-get install cmake git libgtk2.0-dev pkg-config libavcodec-dev libavformat-dev libswscale-dev
    d. sudo apt-get install python-dev python-numpy libtbb2 libtbb-dev libjpeg-dev libpng-dev libtiff-dev libjasper-dev libdc1394-22-dev
    e. cd <working_directroy_path>
    f. git clone https://github.com/opencv/opencv.git
    g. cd ~/opencv
    h. mkdir build
    i. cd build
    j. cmake -DCMAKE_BUILD_TYPE=Release -DCMAKE_INSTALL_PREFIX=/usr/local ..
    k. make -j4
    l. sudo make install
5. TensorFlow
    a. sudo apt-get update
    b. sudo pip3 install tensorflow
    c. sudo pip3 install tensorflow-gpu

6. Tensorflow Serving
    a. sudo apt-get install tensorflow-model-server
7. Keras
    a. sudo pip3 install keras