**1. PROJECT TITLE:**

Optimized multi-objective segnet with deep residual network for prostate cancer segmentation and detection

**2. HARDWARE REQUIREMENTS**

OS-Windows 10

RAM-8GB

ROM-More than 100 GB

GPU-Yes

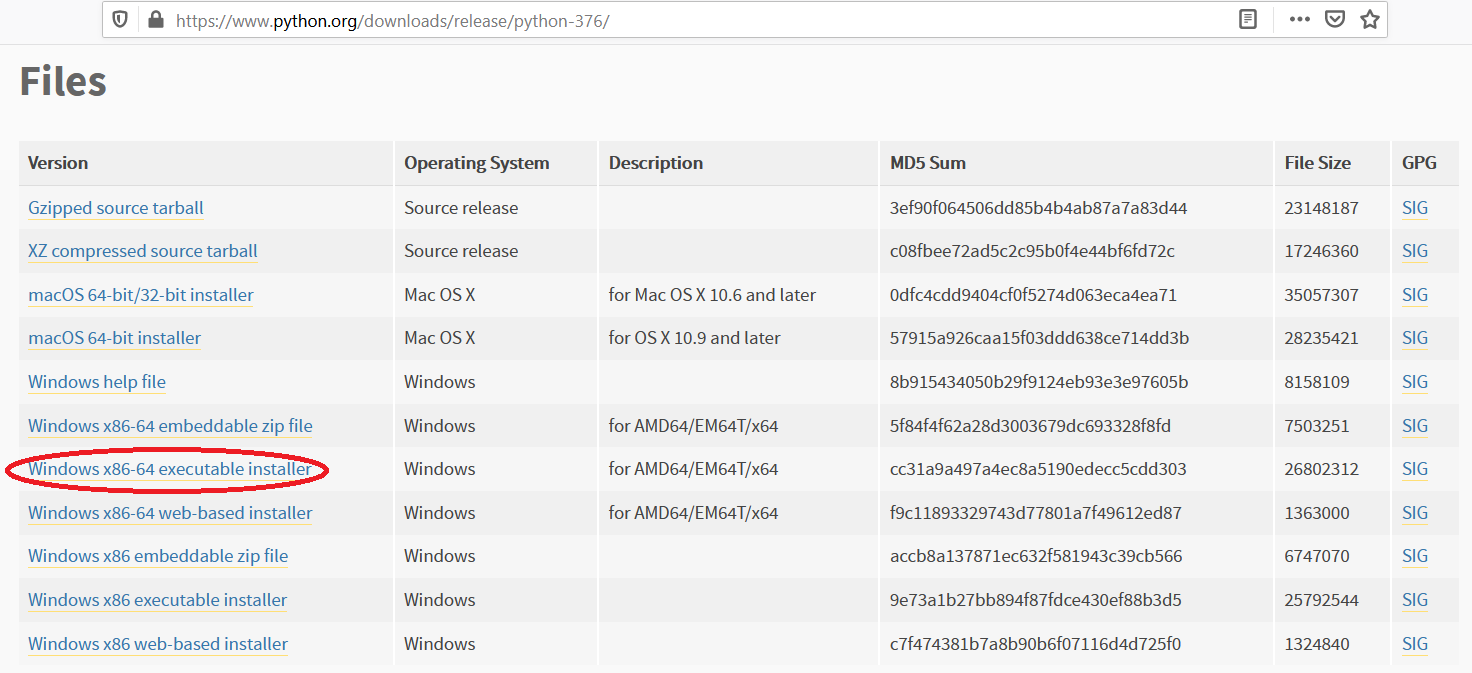
CPU-1.7 GHz

**3. SOFTWARE REQUIREMENTS**

Software name(**Python**): Version: 3.7.6

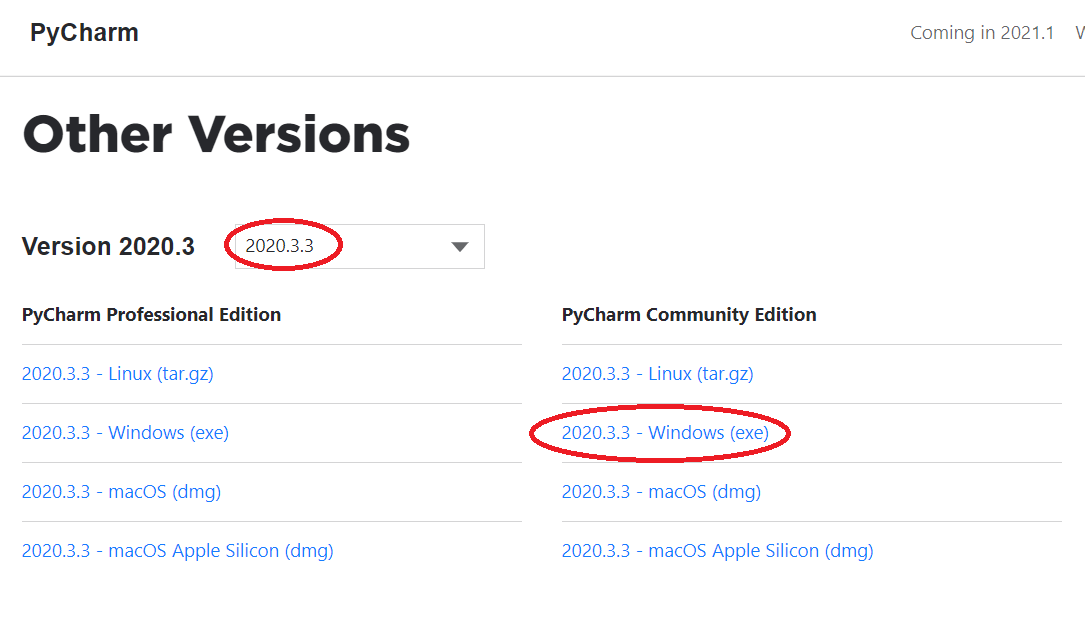
(Download link: <https://www.python.org/downloads/release/python-376/> )

Click -> Windows x86-64 executable installer.



Software name: **PyCharm**: Version: 2020.3.3

(Download link: <https://www.jetbrains.com/pycharm/download/other.html>)



(For installation procedure, please refer the doc “steps to install python.doc”)

**4. HOW TO RUN**

**Step 1**: Loading the project in PYCHARM

* Open pycharm
* Go to File, select Open browse the project from your drive and select it. So that the project will get loaded into the Pycharm.
* For the first time, Pycharm will take some time to load the settings.
* Please wait if any process is loading on the bottom of the screen.
* Check the Project Interpreter (File -> Settings -> Project: 142705 -> Project Interpreter).

If this location “(C:\Users\---\AppData\Local\Programs\Python\Python37-64\python.exe) is not presented, then add this ‘python.exe’ from the installed location.

* In Pycharm Terminal(bottom left), type the comment “pip install -r requirements.txt”

**Step 2**: Run the program and getting the results

* From 'current project folder' window in pycharm, Open ‘**142705** **-> Main->GUI.py**’ and click run button
* In GUI window

1) Enter Training data(%) (eg:80) / K-fold(eg:8)

2) Select dataset

3) Click START, after some time the result will be displayed

[Expected Execution time expected: **20-30 minutes**]

* **Step 3**: Generate the graphs plotted in the paper
* From 'current project folder' window in pycharm, open ‘142705 -> Main->Result\_graphs.py’, and click run button.

**5. IMPORTANT PYTHON FILE AND DESCRIPTION:**

**Main-> GUI.py**: User Interface, code starts here

**Main-> Run.py**: Main code

**Main-> Pre\_processing.py:** ROI extraction , Preprocessing.

**Main-> Proposed\_SegNet.py:** Segmentation

**Main-> Augmentation.py:** Data augmentation – Rotation, Cropping

**Proposed\_HFGSO\_DRN-> HFGSO.py:** Optimization Update equation🡪line 69

**Proposed\_HFGSO\_DRN -> DRN.py:** Deep CNN classifier

**Main-> Result\_graphs.py**: displays graphs in paper.