

- Download zip file from here.  
[https://drive.google.com/file/d/0B0\\_91pVAC1-tZG5mNjllUIMwSDA/view?usp=sharing](https://drive.google.com/file/d/0B0_91pVAC1-tZG5mNjllUIMwSDA/view?usp=sharing)

Before running applications you have to add some DLL files and data set as described below

.NET application files—

- download EmguCV libemgucv-windows-universal-cuda-2.4.10.1940 from
- <http://sourceforge.net/projects/emgucv/>

- extract files to some folder.
- under "bin" directory of this folder you will find files given below.

1. Emgu.CV.DebuggerVisualizers.VS2013.dll
2. Emgu.CV.dll
3. Emgu.CV.GPU.dll
4. Emgu.CV.ML.dll
5. Emgu.CV.OCR.dll
6. Emgu.CV.OpenCL.dll
7. Emgu.CV.Stitching.dll
8. Emgu.CV.UI.dll
9. Emgu.CV.VideoStab.dll
10. Emgu.Util.dll
11. ZedGraph.dll

- copy these files and paste into "Application" directory of this main project folder.
- Now in the same bin directory you will find a folder named "x86".
- copy all ".dll" files inside this "x86" folder and paste them into "Application\x86".

Application will run in .NET framework 4.5 . So if running windows 7 or earlier, install .NET framework 4.5 from microsoft website. Windows 8, 8.1 already have framework 4.5 .

DATA set Part—

- If U want to use your dataset . then put it under “codes\DATA set uncalib\images\_00\data” and

name the images as "0000000000.png", "0000000001.png" and so on. Save the GPS data under "codes\DATA set uncalib\oxts". Means same format as KITTI data set. KITTI data set is already in above format , so no need to manipulate. Just arrange as described above.

- Link fo KITTI data set.
1. [http://www.cvlibs.net/datasets/kitti/raw\\_data.php?type=road](http://www.cvlibs.net/datasets/kitti/raw_data.php?type=road)
  2. [http://www.cvlibs.net/datasets/kitti/raw\\_data.php?type=city](http://www.cvlibs.net/datasets/kitti/raw_data.php?type=city)

Download the "unsynched + Unrectified data". And copy to above directory as described.

Data downloaded from above links will already be in the format as described earlier. Just copy to proper location.

So dir structure will be

"codes\DATA set uncalib\images\_00"

"codes\DATA set uncalib\oxts"

Also put the same data set under

"Application\ codes\DATA set uncalib\images\_00"

"Application\ codes\DATA set uncalib\oxts" to run windows application. Above was for matlab.

Videos-

[http://youtu.be/PniwOiY\\_uxU](http://youtu.be/PniwOiY_uxU)

[http://youtu.be/ylc3G\\_8XwPo](http://youtu.be/ylc3G_8XwPo)

<http://youtu.be/zsNuwjA2yek>

.NET application—

1. Run windowsapplication\_External\_cam\_KLT\_Tracker.exe for external camera in LAPTOP
2. Run windowsapplication\_internal\_cam\_KLT\_Tracker.exe for internal camera in LAPTOP
3. Run WindowsApplication\_Feature\_matching.exe for data set .
4. To see live results of application first run the application and immediately run animate\_live.m file under project directory. This .m file continues to run in infinite loop, to break the loop press "Ctrl+C". and type command "fclose all".

MATLAB

1. Just RUN FEATURES.m file to compute trajecory.
2. Since MATLAB takes time so iahve presaved the results in form of .mat files.
3. So to see presaved results using feature matching run ANIMATE\_ALL.m
4. To see presaved results using KLT , run ANIMATE\_WITH\_KLT.m (Results are for OpenCV only)

- Unmanned Ground Vehicle Files are under “wireless car control system”. All the PCB, Codes for Microcontrollers used in transmitter, receiver.

Now run the app and enjoy.