# UAVision library – Some instructions to compile and execute the software

To compile the code, enter the `build` directory and type `cmake ..` and then type `make`. There are several applications in the folder `app` and the corresponding binaries after compilation go to the `bin` directory.

They can be run as follows:

```
./omniVision -cf omni -load omniVideo -ball 1

./frontVision -cf front -load frontVideo -ball 1

./watershed imagetoLoad
```

These binaries have a large number of command line arguments, out of which we mention the ones that are relevant for testing the sequences that we also make available:

```
-h (help – shows information about all available command line arguments)
-nodisp (do not display images; by default, display mode is on)
-server (accept connections from clients)
-cf # (name of the configuration file)
-debug (shows visual debug information on the images)
-v (verbose – prints debug information)
-tv (time verbose – prints processing times information)
-port # (port number when in server mode)
-load # (load a video file)
-loop (play video file in loop mode)
-fs (full size display – by default, the display image is reduced at half of its
original size)
-ball # (ball color configured in the configuration file 1 - orange 2 - yellow 3
- magenta 4 -cyan 5-blue; if nothing is specified, a yellow ball is used by
default)
-ns # (number of scan lines; by default...)
-step # (intra-scan line sparsity for radial scan lines; by default...)
-step1 # (intra-scan line sparsity for horizontal and vertical scan lines; by
default...)
-step2 # (inter-scan line sparsity for horizontal and vertical scan lines; by
default...)

The highlighted arguments are obligatory for the use of the binaries. Our
software allows key interaction and the following keys can be used when the
display mode is activated:

1 – (shows the original image; by default, this image is shown when in display
mode)
2 – (show the greyscale labe image)
3 – (show the painted label image)
4 – (show the “reality of the robot” image)
d – (toggle key – activate/deactivate debug information)
s – (save a screen shot of the current image)
p – (pause the current video)
g – (forward one frame of the current video)
q - (quit)

An example of the information found in a typical configuration file is also
available on root folder.
```