**Staple tracker**

Code for the method described in the paper **Staple: Complementary Learners for Real-Time Tracking**, by Luca Bertinetto, Jack Valmadre, Stuart Golodetz, Ondrej Miksik and Philip Torr (University of Oxford) - appeared at CVPR 2016.

**Contacts**

For questions about the code or the paper, feel free contact us. You can find more info at the project page: <http://robots.ox.ac.uk/~luca/staple.html>

Please cite

@InProceedings{Bertinetto\_2016\_CVPR,

author = {Bertinetto, Luca and Valmadre, Jack and Golodetz, Stuart and Miksik, Ondrej and Torr, Philip H. S.},

title = {Staple: Complementary Learners for Real-Time Tracking},

booktitle = {The IEEE Conference on Computer Vision and Pattern Recognition (CVPR)},

month = {June},

year = {2016}

}

**Prerequisites**

* The code is mostly in MATLAB, except the workhorse of fhog.m, which is written in C and comes from Piotr Dollar toolbox<http://vision.ucsd.edu/~pdollar/toolbox>
* gradientMex and mexResize have been compiled and tested for Ubuntu and Windows 8 (64 bit). You can easily recompile the sources in case of need.
* To use the webcam mode (runTracker\_webcam), install MATLAB's webcam support from <http://mathworks.com/hardware-support/matlab-webcam.html>

**Modes**

* runTracker(sequence, start\_frame) runs the tracker on sequencefrom start\_frame onwards.
* runTracker\_webcam starts an interactive webcam demo.
* runTracker\_VOT and run\_Staple run the tracker within the benchmarks VOT and OTB respectively.

**Format**

For runTracker(sequence, start\_frame), make sure the directory tree looks like the following:

- staple/

- runTracker.m

- thisTracker.m

- ...

- Sequences/

- ball/

- bicycle/

- (any other sequence with the specified format)

Each sequence folder should have the following structure

* <sequence\_name>/
  + imgs/
    - 00000000.jpg (must be 8digit, any img format allowed)
    - 00000001.jpg
    - ...
  + groundtruth.txt
  + <sequence\_name>\_frames.txt
* <sequence\_name>\_frames.txt contains the interval of frames to track
* groundtruth.txt contains the per frame annotation. The ground truth bounding box can be expressed as a polygon, i.e. <x1>,<y1>,<x2>,<y2>,<x3>,<y3>,<x4>,<y4>, or as an axis-aligned bounding box, i.e.<top-x>,<top-y>,<width>,<height>

**F.A.Q.**

How can I reproduce the exact same results of the paper?

Checkout the code at the commit tagged cvpr16\_results, other commits and future versions might perform differently. As it is stated in the paper, the performance have been obtained using the last commit of the [VOT toolkit](https://github.com/votchallenge/vot-toolkit) available at the time of the paper submission (d3b2b1d).