

Kalman Filter HW

Develop a python application that uses Kalman filter for smoothing the output of the mouse pointer. Define process model, transition matrix and system noise. Write code as python application with comments.

Required submission: code of the system, recorded avi file of the system. Use OpenCV VideoWriter class for storing the video

Optional:

Use Kalman filter for smoothing the output of the mean shift tracker.

References:

https://docs.opencv.org/3.0-beta/doc/py_tutorials/py_gui/py_video_display/py_video_display.html

https://www.cs.utexas.edu/~teammco/misc/kalman_filter/

<https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19860003843.pdf>

<https://simondlevy.academic.wlu.edu/kalman-tutorial/>

https://nbviewer.jupyter.org/github/rlabbe/Kalman-and-Bayesian-Filters-in-Python/blob/master/table_of_contents.ipynb