

Cleaning Noise from Binary Images

Robert B. Fisher
School of Informatics
University of Edinburgh

NOISE CLEANING

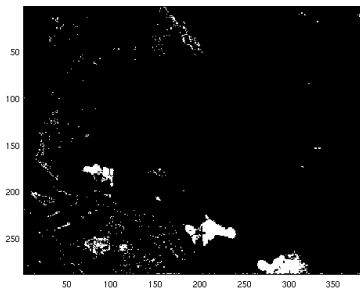
Final stage: remove noise in thresholded foreground image:

1. Collect into regions by 4-connectedness
2. Remove groups with less than 5 pixels
3. “Close” (dilate and then erode) to fill in gaps
4. resulting groups still with less than 20 pixels

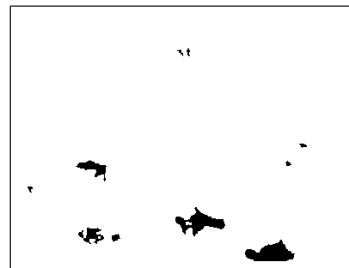
Future: remove groups whose bounding boxes do not overlap another in previous & next frame

Future: Track boxes thru time using Kalman filter

THRESHOLDED



CLEANED



NOISE CLEANING RESULTS URL

SEE: [homepages.inf.ed.ac.uk/rbf/...](http://homepages.inf.ed.ac.uk/rbf/...AVINVERTED/DEMOS/TRACK/demo2.html)
...AVINVERTED/DEMOS/TRACK/demo2.html

What We Have Learned

1. Basic
2. A lot of single pixel noise in detection