Object Detection

Literature Survey

\*Survey paper: A survey of Modern Object Detection Literature using Deep Learning

Two-step methods:

1. RCNN
2. Fast-RCNN
3. Faster-RCNN [Implemented]

Useful-links: -

* 1. <https://tryolabs.com/blog/2018/01/18/faster-r-cnn-down-the-rabbit-hole-of-modern-object-detection/>
  2. <https://medium.com/@smallfishbigsea/faster-r-cnn-explained-864d4fb7e3f8>
  3. <https://towardsdatascience.com/faster-r-cnn-object-detection-implemented-by-keras-for-custom-data-from-googles-open-images-125f62b9141a> (best explanation with code)
  4. Used Keras implementation: <https://github.com/Kelicious/faster_rcnn>

Results:

1. FPN – makes Faster-RCNN scale invariant
2. R-FCN – makes Faster-RCNN fully convolutional to provide speed-ups

Useful-links: -

* 1. <https://medium.com/@jonathan_hui/understanding-region-based-fully-convolutional-networks-r-fcn-for-object-detection-828316f07c99>

Single Step Object Detectors:

1. SINGLE SHOT MULTIBOX DETECTOR (SSD)
2. YOLO

Useful-links:-

* 1. <https://medium.com/@jonathan_hui/real-time-object-detection-with-yolo-yolov2-28b1b93e2088>

1. RETINA NET

DATASETS

Table Detection:

* <https://github.com/data-liberation/table-understanding-dataset>
* <http://www.iapr-tc11.org/mediawiki/index.php/Table_Ground_Truth_for_the_UW3_and_UNLV_datasets>
* <https://mc.ai/table-detection-using-deep-learning/>
* <https://roundtrippdf.com/en/downloads/>