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MSBA 503

Take Home Assignment

# Object Detection Comparison

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Image | Faster R-CNN Time (s) | Faster R-CNN Objects | Faster R-CNN Avg Confidence | SSD Time (s) | SSD Objects | SSD Avg Confidence | Image Dimensions | Top-Left Color |
| hide-the-pain-harold-why-you-should-not-use-stock-photos-1024x683.jpg | 11.5481 | 9 | 0.8003 | 1.2848 | 2 | 0.9456 | 1024x683 | (214, 208, 210) |
| Stock-Photography-vs-Real-Imagery.jpg | 10.9945 | 13 | 0.7102 | 1.3209 | 1 | 0.9709 | 831x467 | (52, 48, 39) |
| premium\_photo-1661508620175-3ae20da61cda.jpg | 10.5093 | 6 | 0.8656 | 1.5593 | 3 | 0.7495 | 3000x2000 | (219, 232, 225) |
| cat\_caviar.jpg | 10.2998 | 7 | 0.7923 | 1.2804 | 2 | 0.7584 | 615x418 | (255, 255, 255) |
| premium\_photo-1661772661721-b16346fe5b0f.jpg | 9.4836 | 15 | 0.7823 | 2.2841 | 2 | 0.8059 | 3000x2000 | (200, 219, 225) |
| stressful-business-man-have-so-many-paperwork-in-the-office-free-photo.jpg | 8.9126 | 13 | 0.7166 | 3.1027 | 1 | 0.7161 | 600x400 | (207, 194, 162) |
| helena-lopes-S3TPJCOIRoo-unsplash-scaled.jpg | 8.4982 | 2 | 0.8208 | 1.8835 | 2 | 0.9919 | 2560x1707 | (17, 37, 36) |
| iStock-1422593791.jpg | 8.8488 | 6 | 0.7867 | 1.3495 | 1 | 0.6444 | 568x378 | (166, 183, 151) |
| merlin\_177451008\_91c7b66d-3c8a-4963-896e-54280f374b6d-videoSixteenByNineJumbo1600.jpg | 10.7095 | 8 | 0.9171 | 1.2709 | 2 | 0.9816 | 1600x899 | (26, 101, 255) |

Comments:

Faster R-CNN performs better in terms of accuracy but is slower compared to SSD. SSD, on the other hand, is faster but may sacrifice some detection accuracy. Faster R-CNN is able to identify cluttered images better but still struggles with extremely cluttered images. Interestingly Faster R-CNN could accurately detect blurred images except of the blurred dog which it thought was a human.