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CSE 4310-001

### Assignment 5: Task 2

If I were to sell the template detector for face detection, I would use **average\_face\_cropped.png**.

I tested both images with a threshold of 0.4, 0.5, 0.6, 0.6, and 0.8, using an IoU threshold of 0.5 and a scales array made from make\_scales\_array(1, 5, 1.1).

	Cropped Image			Uncropped Image		
Detection Threshold:	True Positive	False Positive	False Negative	True Positive	False Positive	False Negative
0.4	38	673	27	33	992	32
0.5	28	54	37	29	339	36
0.6	15	4	50	20	58	45
0.7	4	0	61	5	2	60
0.8	0	0	65	0	1	65

The average true positive rate per ground truth and average false positives per image are:

	Cropped Image	Uncropped Image
TP / ground truth:	26.15%	26.77%
FP / image:	3.749	7.139

Using the cropped image had a much lower false positive rate than the uncropped image, while having a similar or even higher true positive rate depending on the threshold. However, the threshold can be customized by the users, making it a better choice.