Table 6. Pyramid level ablation for sub-image anomaly detection accuracy on MVTec (PRO %)

Used layers size:	(14)	(28)	(56)	SPADE
Carpet	93.5	93.4	91.0	94.7
Grid	80.9	88.0	89.1	86.7
Leather	96.6	97.5	97.3	97.2
Tile	74.5	65.9	73.8	75.9
Wood	84.7	87.7	87.5	87.4
Bottle	93.7	94.7	88.3	95.5
Cable	89.3	87.3	73.5	90.9
Capsule	90.5	92.8	91.4	93.7
Hazelnut	92.7	95.8	96.2	95.4
Metal nut	91.3	93.1	86.1	94.4
Pill	89.2	94.4	96.3	94.6
Screw	90.7	95.9	96.1	96.0
Toothbrush	90.9	93.5	94.5	93.5
Transistor	91.3	72.1	62.5	87.4
Zipper	90.9	92.4	92.5	92.6
Average	89.38	89.6	87.74	**91.7**

Table 7. Evaluating the effectiveness of our kNN retrieval state. We use here 10 nearest neighbours, chosen according to stage 1, or randomly selected. We also show the "Grid" class to indicate that stage 1 is more important to some classes then others

Stage 1: SPADE (10 Random)	SPADE (10NN)
Grid	73.2	86.3
Average	89.2	**91.4**

PatchMatch [2] method which used locality for significant speedup of the kNN search.

The role of context for anomaly detection: The quality of the alignment between the anomalous image and retrieved normal images is strongly affected by the quality of extracted features. Similarly to other works dealing with detection and segmentation, the context is very important. Local context is needed for achieving segmentation maps with high-pixel resolutions. Such features are generally found in the shallow layers of a deep neural networks. Local context is typically insufficient for alignment without understanding the global context i.e. location of the part within the object. Global context is generally found in the deepest layers of a neural network, however global context features are of low resolution. The combination of features from different levels allows both global context and local resolution giving high quality correspondences. The idea is quite similar to that in Feature Pyramid Networks [22].

Optimizing runtime performance: Our method is significantly reliant on the K nearest neighbors algorithm. The complexity of kNN scales linearly with