

PROJECT TOPIC



ISOLATED FOREST TECHNIQUE

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What is Random Forest?



THE RANDOM FOREST CLASSIFIER IS AN ENSEMBLE LEARNING TECHNIQUE. IT CONSISTS OF A COLLECTION OF DECISION TREES, WHOSE OUTCOME IS AGGREGATED TO COME UP WITH A PREDICTION.

What is Isolated Forest?



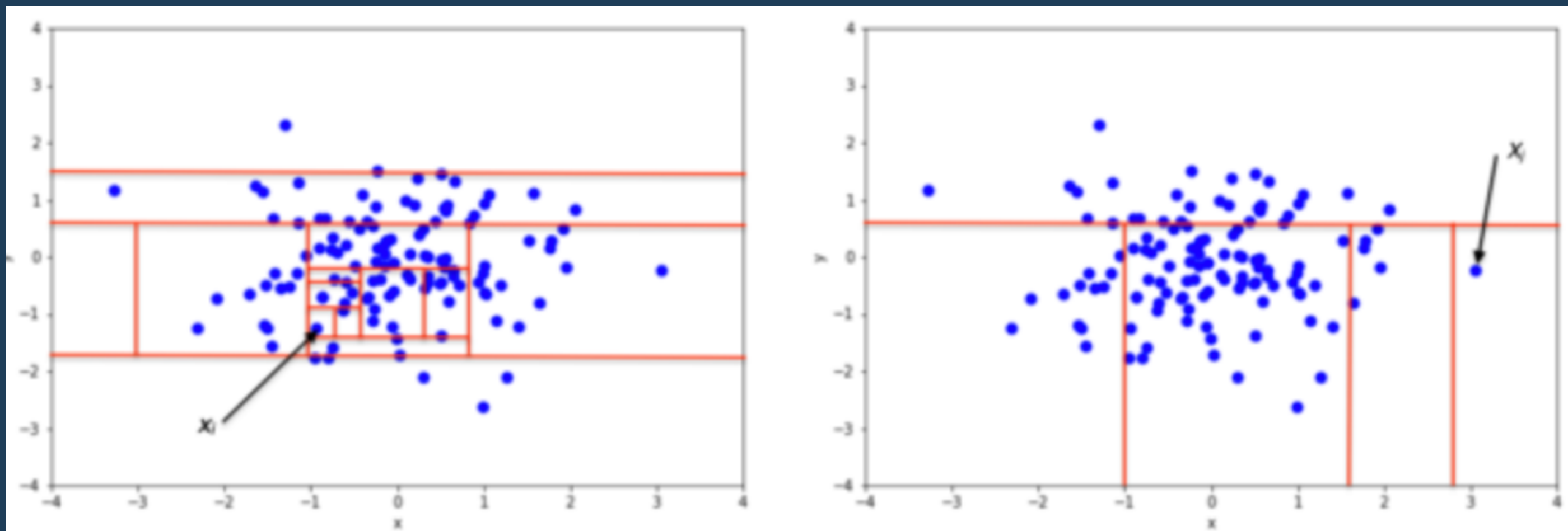
THE ALGORITHM IS BUILT ON THE PREMISE THAT ANOMALOUS POINTS ARE EASIER TO ISOLATE THAN REGULAR POINTS THROUGH RANDOM PARTITIONING OF DATA. IT FOCUS ON OUTLIER.

HOW DOES IT WORK?

where $h(x)$ is the path length of observation x , $c(n)$ is the average path length of unsuccessful search in a Binary Search Tree and n is the number of external nodes.

$$s(x, n) = 2^{-\frac{E(h(x))}{c(n)}}$$

EXAMPLE



DEMONSTRATION

REFERENCE

<https://towardsdatascience.com/outlier-detection-with-isolation-forest-3d190448d45e>

<https://machinelearninginterview.com/topics/machine-learning/explain-isolation-forests-for-anomaly-detection/>

Thank You!

