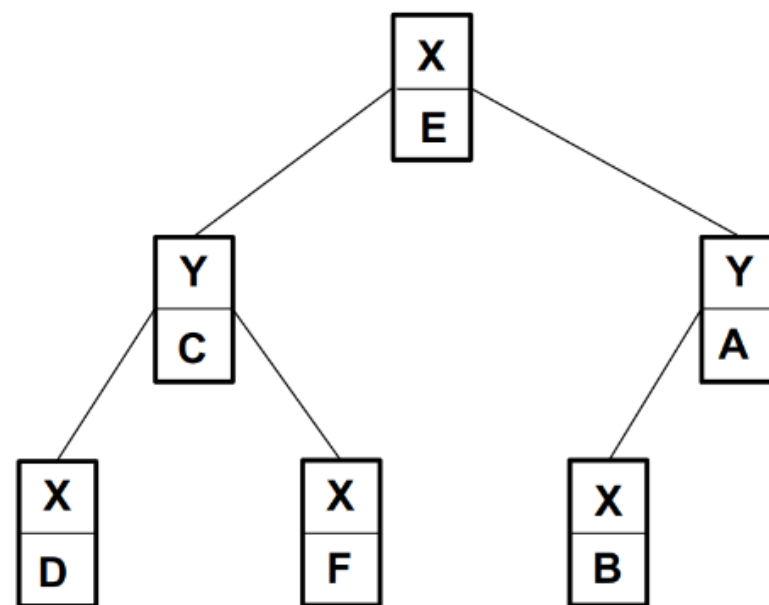
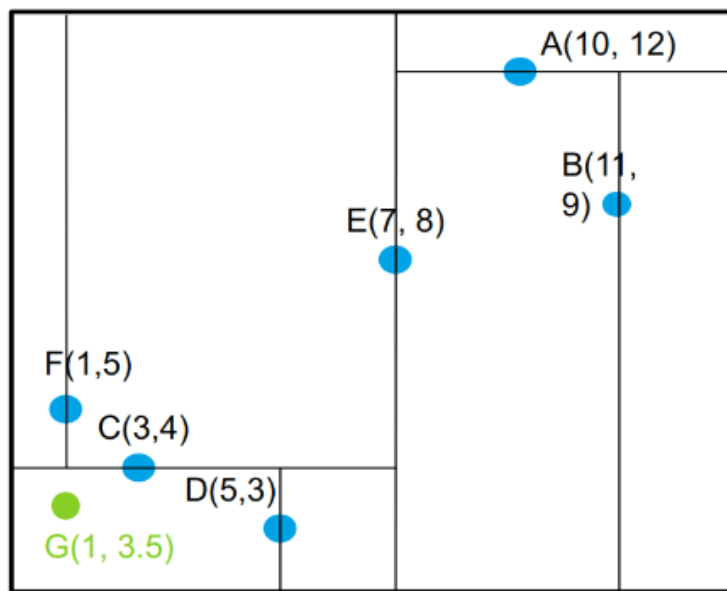




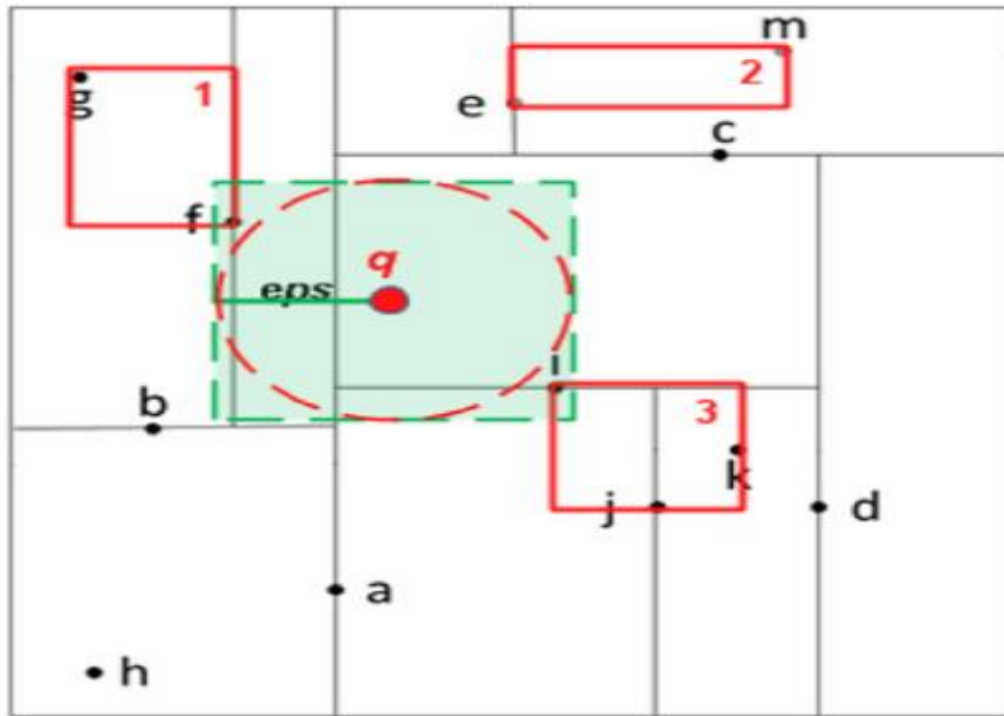
KD - Trees



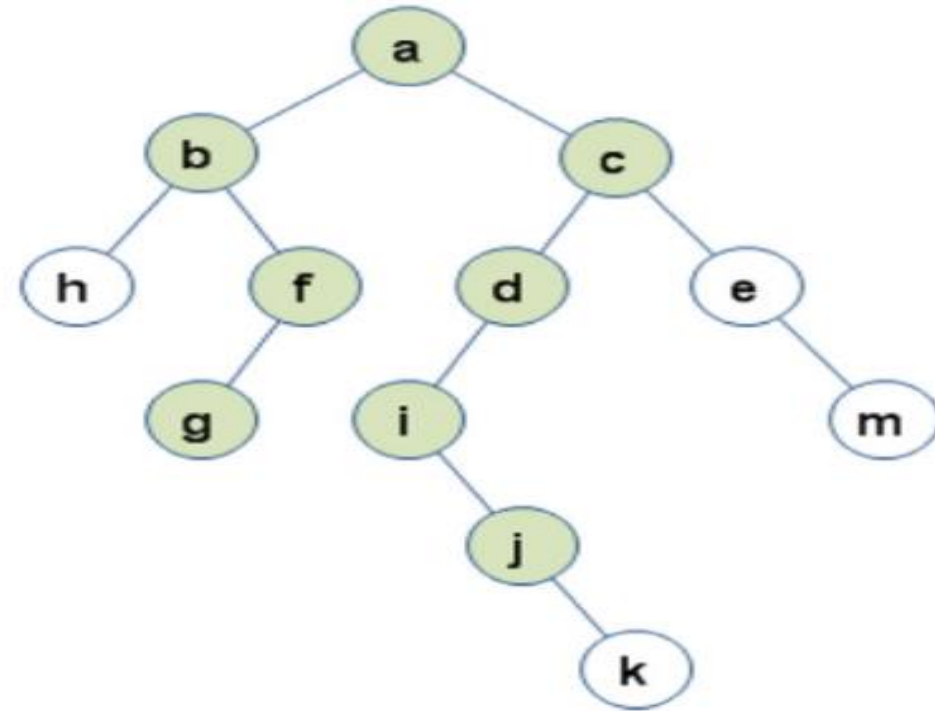
A decorative background featuring several large, overlapping geometric shapes in teal, yellow, and green. These shapes are primarily triangles and diamonds, some of which are partially cut off by the edges of the slide. A large black quotation mark is positioned to the left of the text.

“

Partition trees are one of the most popular techniques for RNN and NN, they are used to recursively split the space into subspaces and organize the subspaces via a tree structure. Most approaches of this kind select hyper-planes or hyper-spheres to partition the space and divide the data points into subsets, according to the distribution of data points.

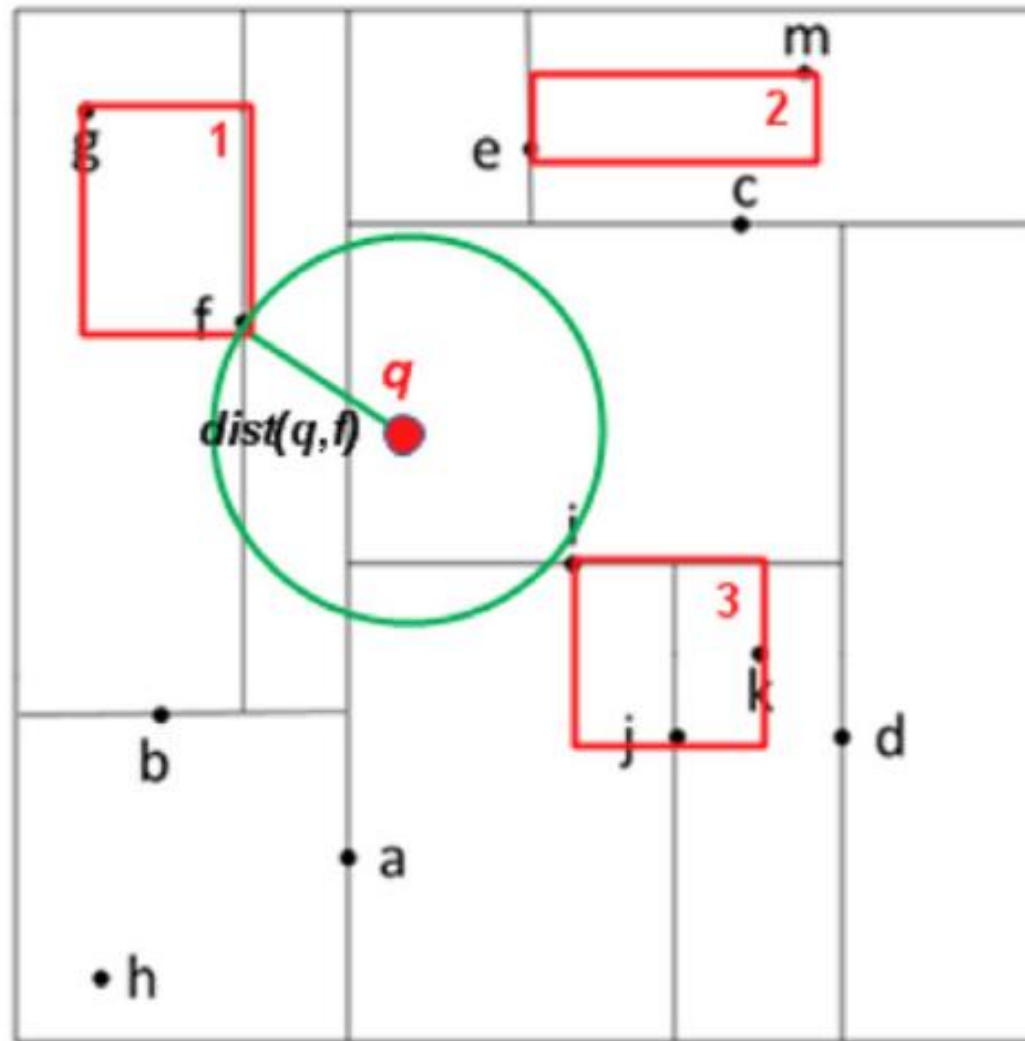


(a) subdivision



(b) structure

- The subdivision and structure of a k-d tree. In (a), the dashed red circle is $\text{Range}(q, \text{eps})$, the shaded green square is $\text{OutRange}(q, \text{eps})$, and each red
- rectangle represents the cell of a node. In (b) all shaded nodes should be visited.



- An example of searching nearest point to q . Node f is current best node, $\text{Range}(q, \text{dist}(q, f))$ intersect with the hyperplanes of i and j , but doesn't intersect with the cells of i and j .