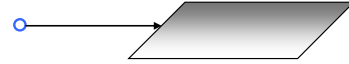


For animations, see:  
<http://www.cs.cmu.edu/~awm/animations/kdtree>

### Exclusion and inclusion, using point-node *kd*-tree bounds.

$O(D)$  bounds on distance minima/maxima:

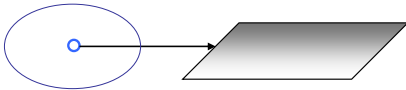


$$\min \|x - x_i\| \geq \sum_d^D [\max\{(l_d - x_d)^2, 0\} + \max\{(x_d - u_d)^2, 0\}]$$

$$\max \|x - x_i\| \leq \sum_d^D \max\{(u_d - x_d)^2, (x_d - l_d)^2\}$$

### Exclusion and inclusion, using point-node *kd*-tree bounds.

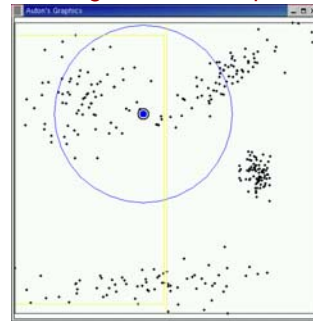
$O(D)$  bounds on distance minima/maxima:



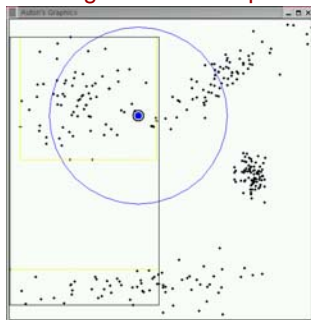
$$\min \|x - x_i\| \geq \sum_d^D [\max\{(l_d - x_d)^2, 0\} + \max\{(x_d - u_d)^2, 0\}]$$

$$\max \|x - x_i\| \leq \sum_d^D \max\{(u_d - x_d)^2, (x_d - l_d)^2\}$$

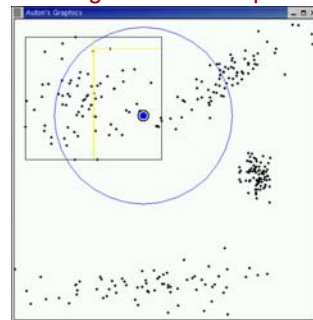
### Range-count example



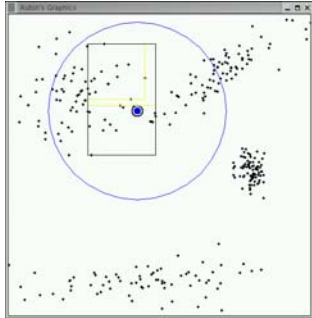
### Range-count example



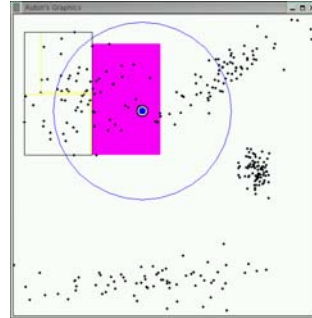
### Range-count example



Range-count example

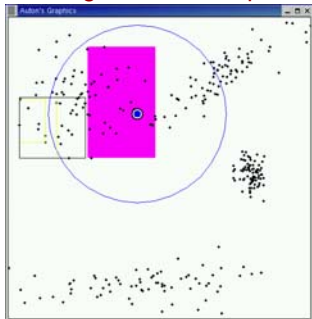


Range-count example

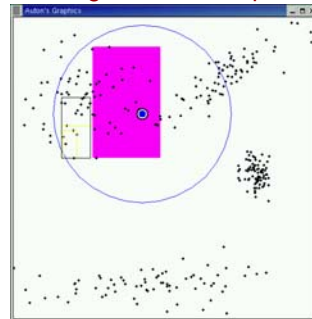


Pruned!  
(inclusion)

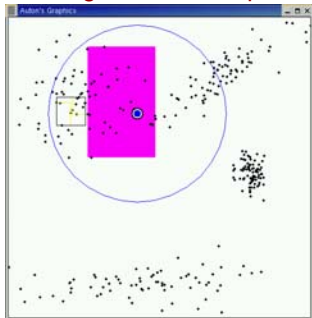
Range-count example



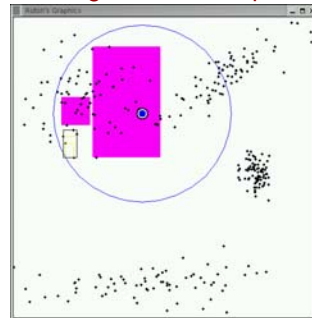
Range-count example



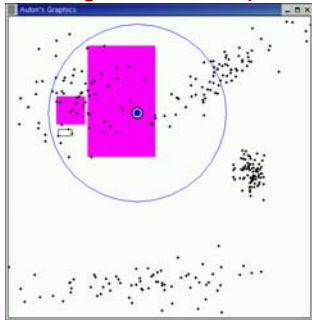
Range-count example



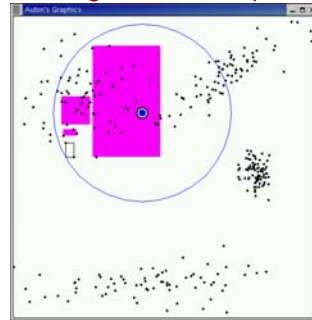
Range-count example



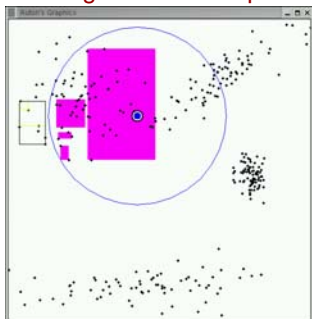
Range-count example



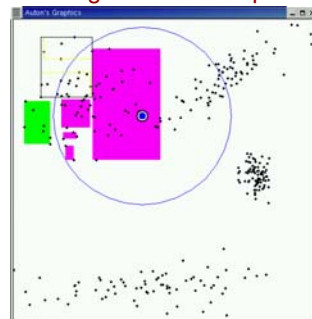
Range-count example



Range-count example

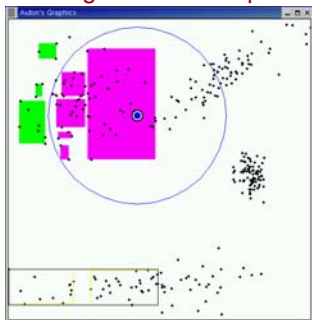


Range-count example

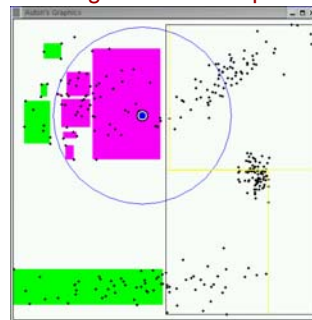


Pruned!  
(exclusion)

Range-count example



Range-count example



### Range-count example

