

$$m(x) = \frac{\sum_{i=1}^n x_i K\left(\frac{x-x_i}{h}\right)}{\sum_{i=1}^n K\left(\frac{x-x_i}{h}\right)}$$

Algorithm MEAN-SHIFT

Input Data $\mathcal{D} = \{x_i\}_{i=1:n}$, kernel $K(z)$, h

1. for $i = 1 : n$
 - (a) $x \leftarrow x_i$
 - (b) iterate $x \leftarrow m(x)$ until convergence to m_i
2. group points with same m_i in a cluster