- A potential remedy for the problem of the unknown "best" window function is to let the estimation volume be a function of the training data, rather than some arbitrary function of the overall number of samples.
- To estimate $p(\mathbf{x})$ from n samples, we can center a volume about $\mathbf{x}$ and let it grow until it captures k_n samples, where k_n is some function of n.
- These samples are called the k-nearest neighbors of $\mathbf{x}$.
- If the density is high near $\mathbf{x}$, the volume will be relatively small. If the density is low, the volume will grow large.