

$$J(\mathcal{Z}, k) = \sum_{j=1}^k \sum_{x \in G_j} \|x - m_j\|^2$$

$$|X| = N$$

Tempting to find k^*

$$k^* = \arg \min_k \left[\arg \min_{\mathcal{Z}} J(\mathcal{Z}, k) \right]$$

($k=1, 2, \dots, N$)

→ run k-means for given k , fixed.

Elbow method ...

