

$$= \sum_{i=1}^n (||\mathbf{x}_i||^2 - 2(\mathbf{u}^t \mathbf{x}_i)(\mathbf{x}_i^t \mathbf{u}) + (\mathbf{u}^t \mathbf{x}_i)(\mathbf{u}^t \mathbf{x}_i) \mathbf{u}^t \mathbf{u})$$