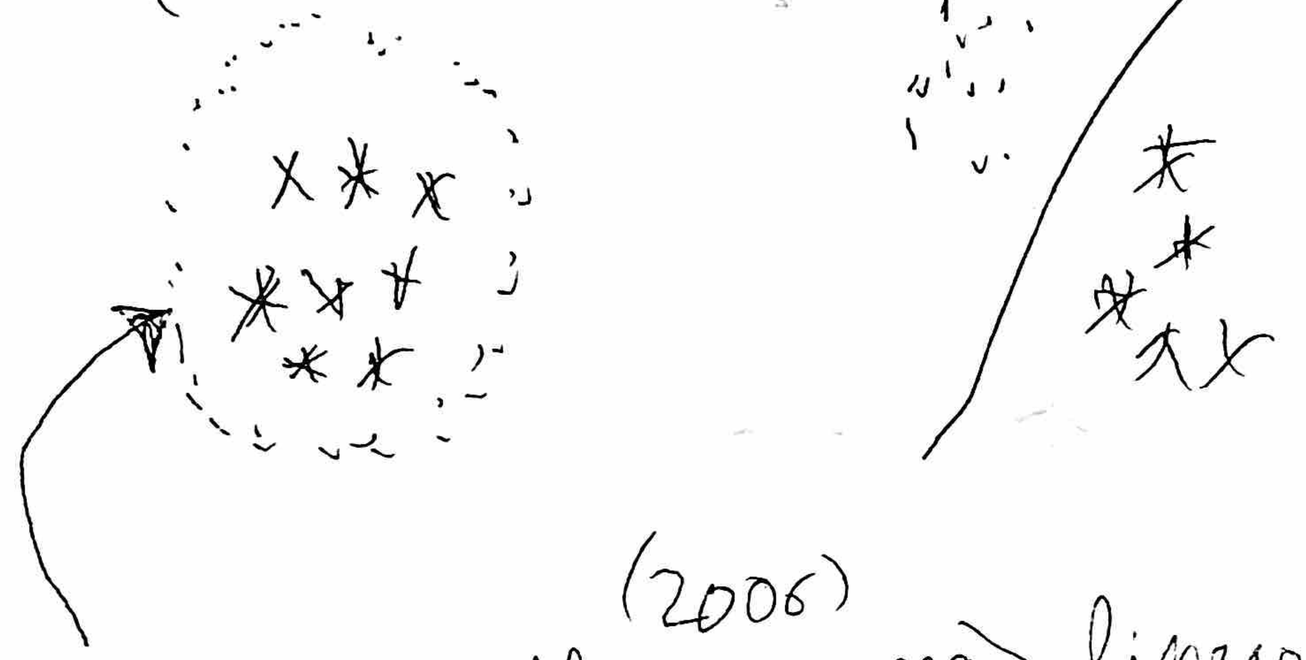
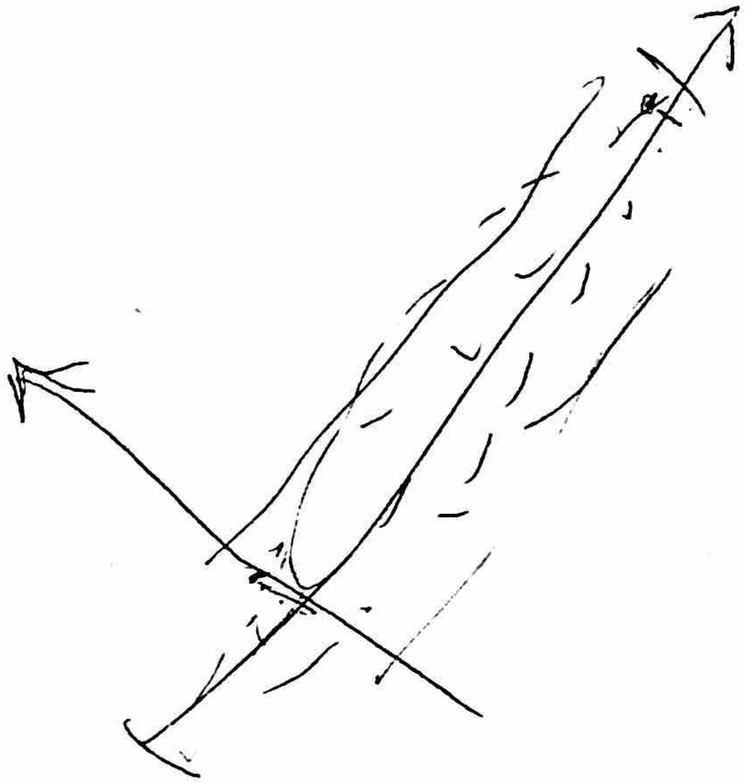
Redução de Dimensionalidade

PCA, SVD; lineares

(1901)

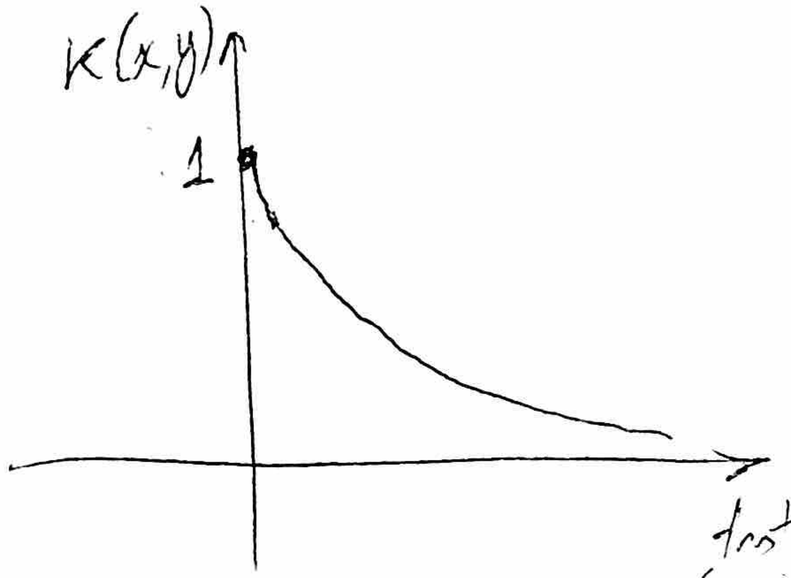




(2006)

Diffusion Maps → não linear

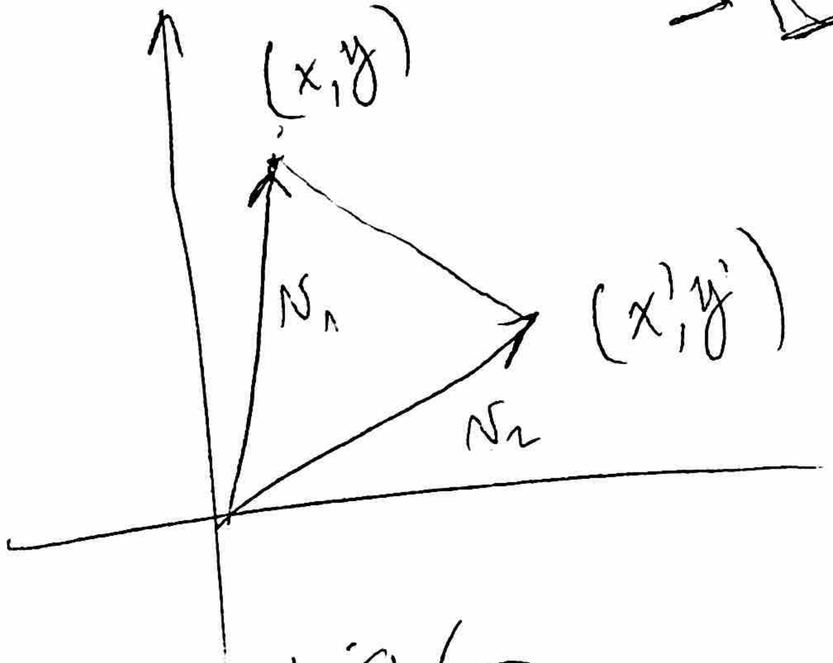
Eigen Maps → (2002)



$$L = \begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{pmatrix}$$

$$D = \begin{pmatrix} 11 & & \\ & 15 & \\ & & 18 \end{pmatrix}$$

$D^{-0,5}$ =



10^6

M → M^{-1}

$k(x,y)$

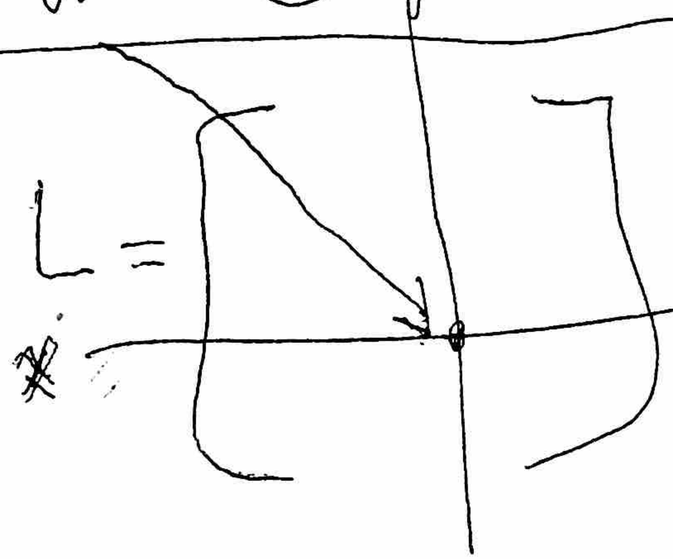
$\varepsilon = 0.1$

$\alpha = 0.5$

$x, y \in \mathbb{R}^{10}$

$$k(x,y) = e^{-\frac{\|x-y\|^2}{\varepsilon}}$$

$\|x-y\|^2$



~~dist(~~ v_1

$$\|v_1 - v_2\|^2 = (x-x')^2 + (y-y')^2 + \dots$$

$$= \sum_{i=1}^{n} (x_i - x'_i)^2$$

h x