

$$d_1(\mathbf{p},\mathbf{q}) = \|\mathbf{p} - \mathbf{q}\|_1 = \sum_{i=1}^n |p_i - q_i|,$$

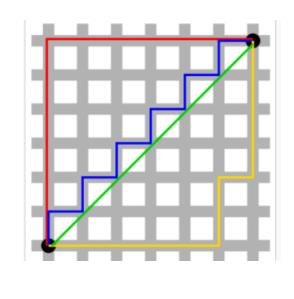
where  $(\mathbf{p}, \mathbf{q})$  are vectors

$$\mathbf{p} = (p_1, p_2, \dots, p_n) \text{ and } \mathbf{q} = (q_1, q_2, \dots, q_n)$$

## 1. Compressed sensing

## 2. Differences of frequency distributions

**Shannon-Nyquist sampling theorem** 



$$egin{split} \mathrm{d}(\mathbf{p},\mathbf{q}) &= \mathrm{d}(\mathbf{q},\mathbf{p}) = \sqrt{(q_1-p_1)^2 + (q_2-p_2)^2 + \dots + (q_n-p_n)^2} \ &= \sqrt{\sum_{i=1}^n (q_i-p_i)^2}. \end{split}$$

akrdis(x1, y1, x2, y2, a) = euclidean(x1, y1, x2, y2)\*(1-a) + manhattan(x1, y1, x2, y2)\*a

$$D_{\mathrm{Chebyshev}}(p,q) := \max_i (|p_i - q_i|).$$

$$ext{hav}( heta) = \sin^2\!\left(rac{ heta}{2}
ight) = rac{1-\cos( heta)}{2}$$

## THANK YOU!