

# Statistical Pattern Recognition in High Dimensions

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*July 18-20, 2003*  
*San Diego, CA USA*

- **sensing** —

$$s : \mathcal{R} \rightarrow \mathbb{R}^p, \quad p \gg 1$$

- **dimension reduction** —

$$r : \mathbb{R}^p \rightarrow \mathbb{R}^q, \quad q \ll p$$

- **classification/clustering** —

$$g : \mathbb{R}^q \rightarrow [0, 1]^c$$

