$$x^j = \bar{x}^j + \lambda \frac{w}{\|w\|_2}$$

$$\bar{x}^j - \text{projection of } x^j \text{ onto } w$$

$$\frac{w}{\|w\|_2} - \text{unit vector normal to } w$$

$$\|w\|_2 = \sqrt{\sum_i w_i^2}$$