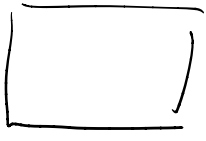
1) много признаков. $640 \times 480 \times 3 =$

$= 921\,600$ ⇒ 

2) признаки не независимые.

3) нет инвариантности по сдвигу.

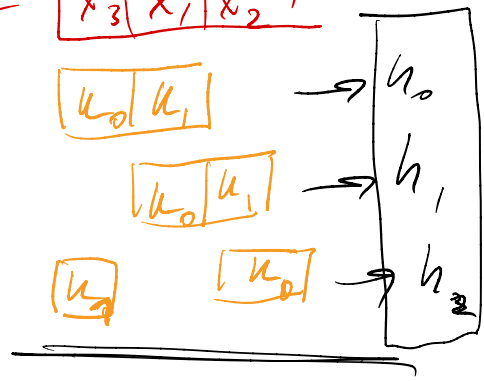
$x \in \mathbb{R}^3$.

$h_1 = \theta x$

$S^R = \begin{pmatrix} 0 & 0 & 1 \\ 1 & 0 & 0 \\ 0 & 1 & 0 \end{pmatrix}$

$S^R x = [x_3 | x_1 | x_2]$

S



$\theta(Sx) = S(\theta x)$

$\theta S = S \theta$

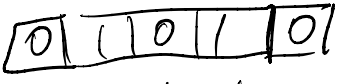
$\theta = \begin{pmatrix} k_0 & k_1 & k_2 \\ k_2 & k_0 & k_1 \\ k_1 & k_2 & k_0 \end{pmatrix}$ циркулянт.

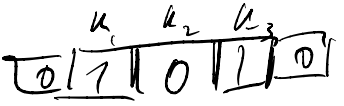
$h = \theta x$

$h_i = \sum_{j=0}^{2} k_{(0+2i) \bmod 3} \cdot x_j = [\theta * x]_i$

$$\Theta = \begin{pmatrix} k_0 & k_1 & 0 \\ 0 & k_0 & k_1 \\ k_1 & 0 & k_0 \end{pmatrix}$$

$$\frac{\Theta^T * X}{\sqrt{G(\theta)\, G(X)}}$$

$X =$ 

$k =$ 

$X * k = [8.3, 0, -4, \ldots]$

$k = [0, 0, 0, 0, 10]$

$X * k = [$