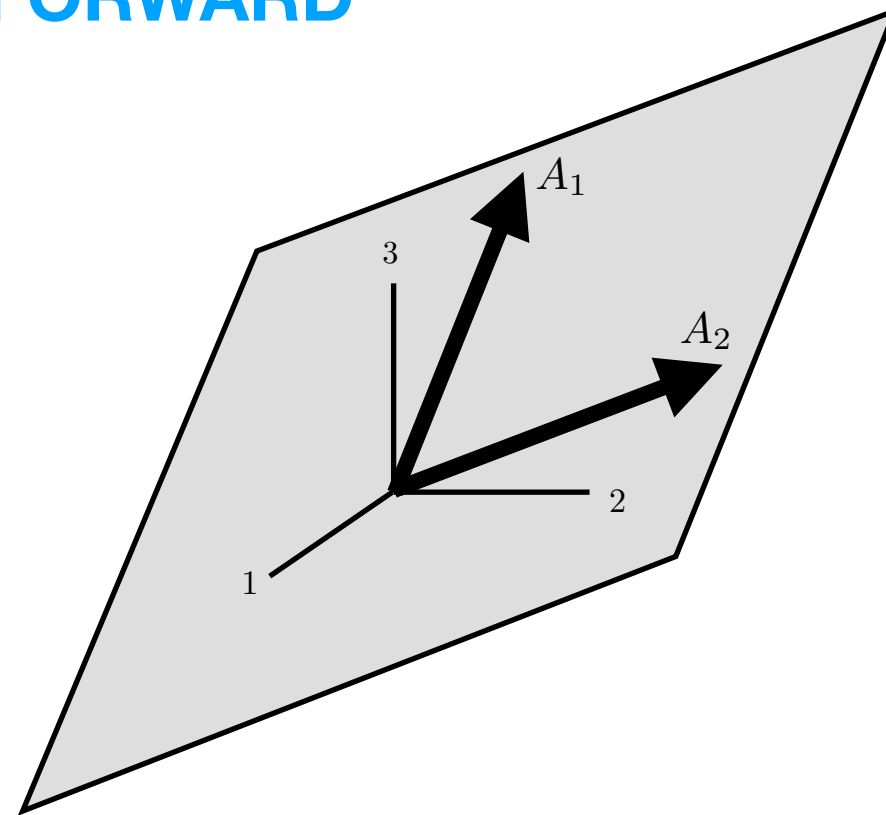


## Column Geometry

**STRAIGHTFORWARD**

$\mathcal{R}(A)$

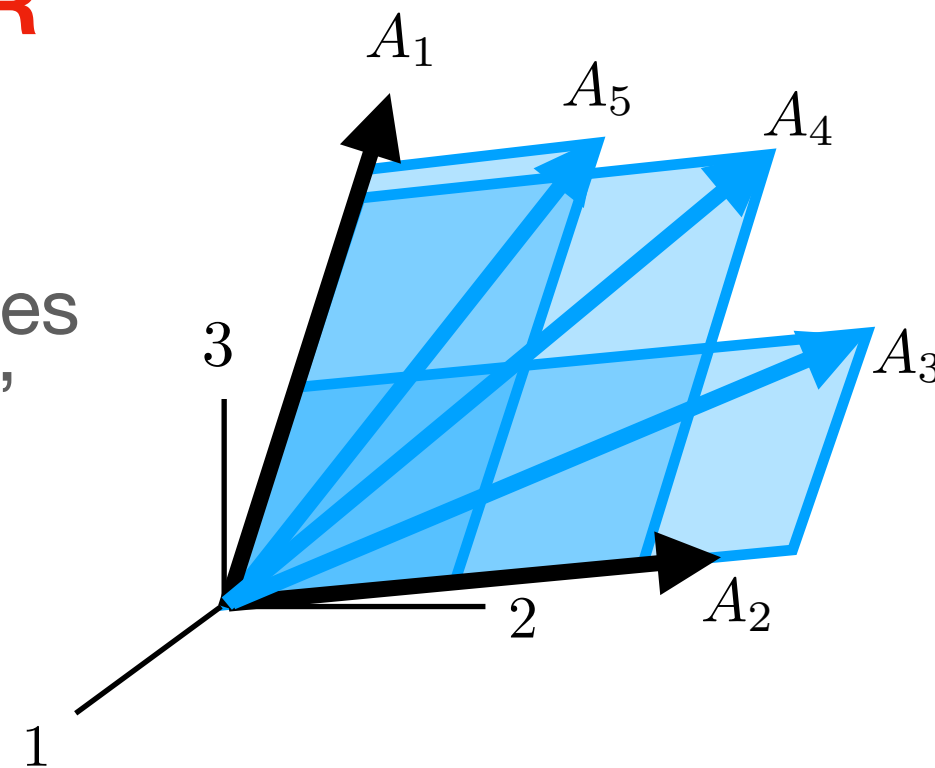
“span of columns”



**HARDER**

$\mathcal{N}(A)$

“coordinates of origin”

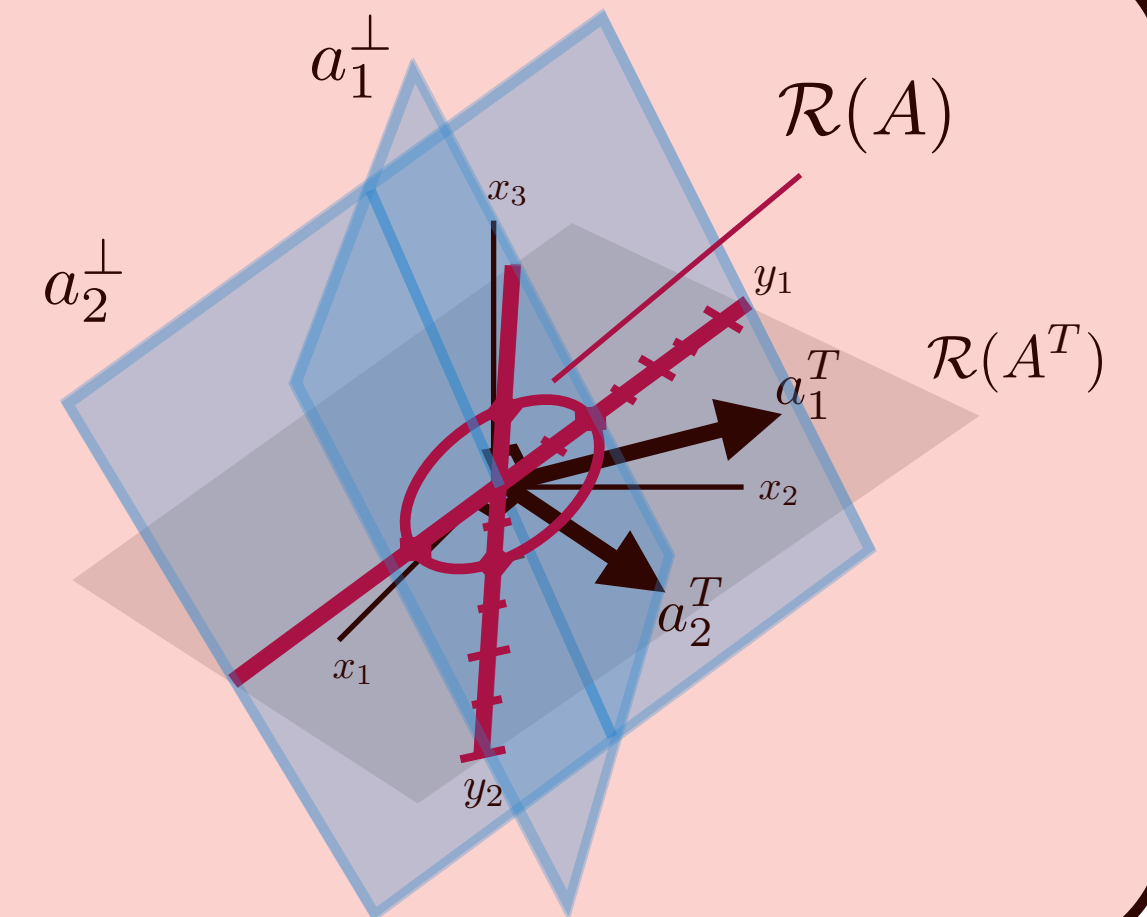


## Row Geometry

**HARDEST**

$\mathcal{R}(A)$

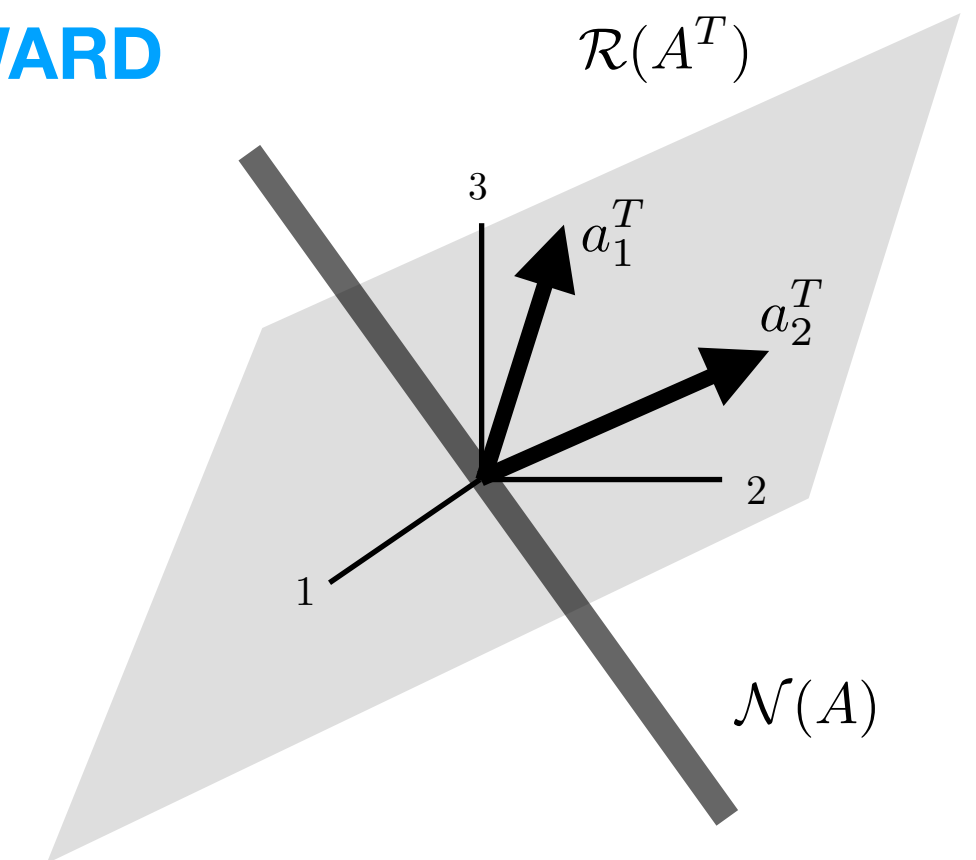
“projection orthogonal to other rows”



**STRAIGHTFORWARD**

$\mathcal{N}(A)$

“orthogonal to all rows”



Range  
Space

$\mathcal{R}(A)$

Nullspace

$\mathcal{N}(A)$