Column Geometry

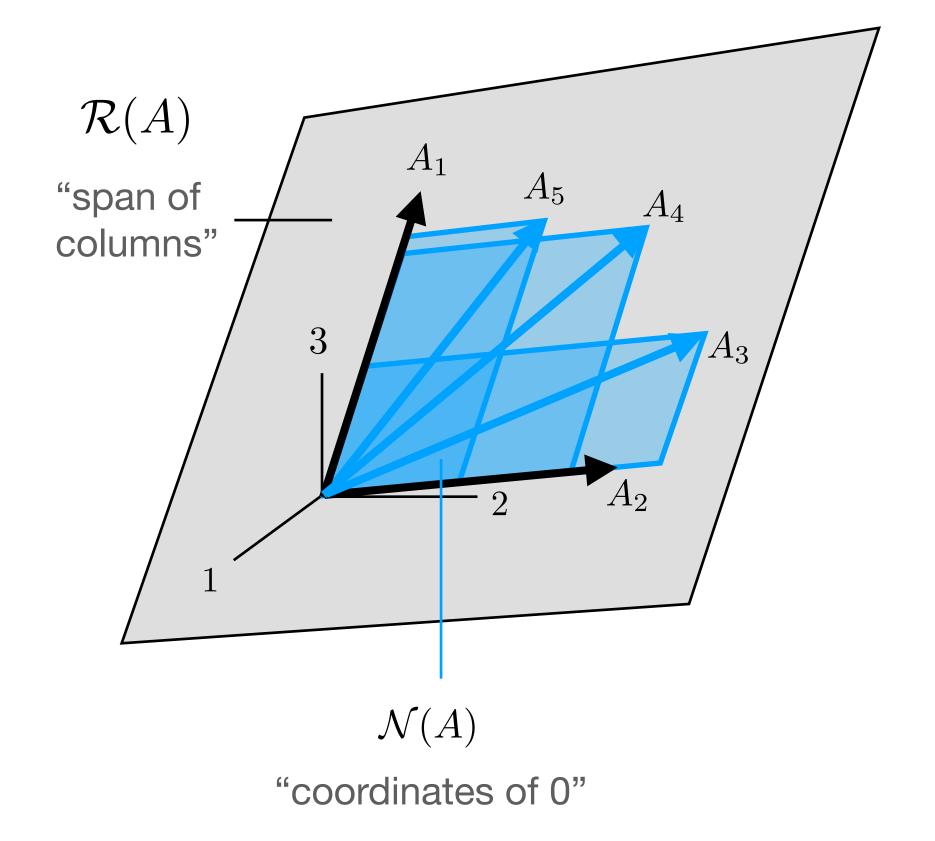
Row Geometry

Range Space

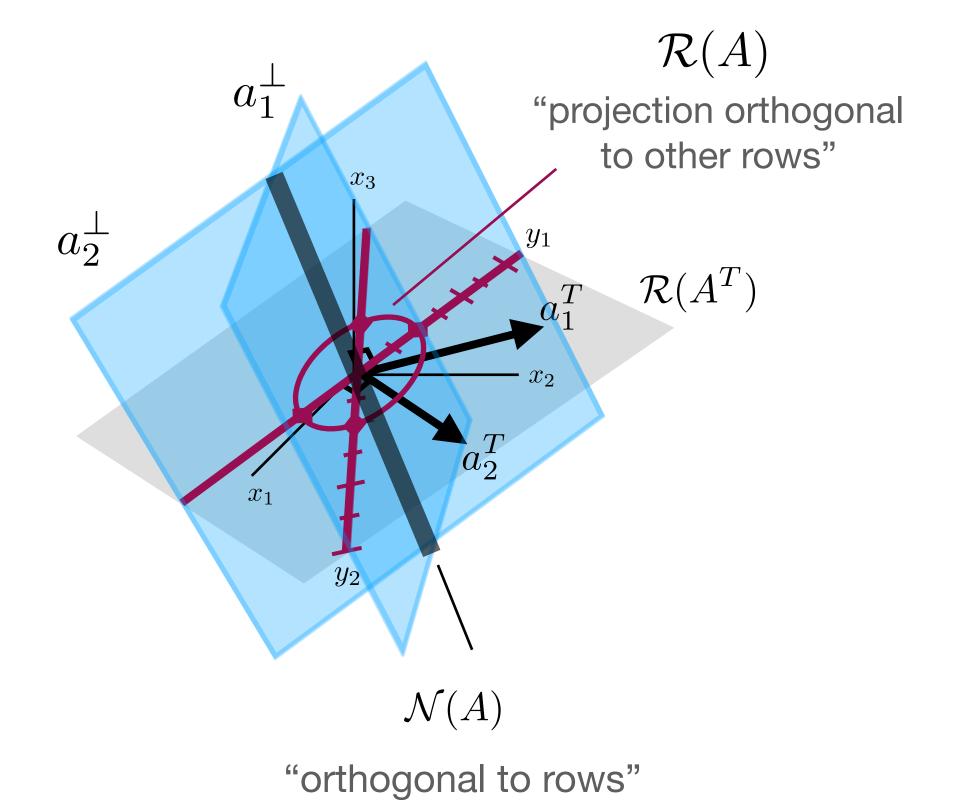
 $\mathcal{R}(A)$

Nullspace

 $\mathcal{N}(A)$



$$A = \begin{bmatrix} | & | & | & | & | \\ A_1 & A_2 & A_3 & A_4 & A_5 \\ | & | & | & | & | \end{bmatrix} \qquad \operatorname{rk}(A) = 2$$



$$A = \begin{bmatrix} - & a_1^T & - \\ - & a_2^T & - \end{bmatrix} \qquad \operatorname{rk}(A) = 2$$