

## Definition: Linear Dependence

*We say the vectors  $\vec{v}_1, \vec{v}_2, \dots, \vec{v}_{n-1}, \vec{v}_n$  are linearly dependent if there is a non-trivial solution to*

$$\alpha_1 \vec{v}_1 + \alpha_2 \vec{v}_2 + \dots + \alpha_{n-1} \vec{v}_{n-1} + \alpha_n \vec{v}_n = \vec{0}$$

*That is, not all coefficients are zero.*