

# Eigen Things

If  $A \in \mathbb{R}^{n \times n}$ , and there is a  $\vec{v} \neq 0 \in \mathbb{R}^n$ , and

$$A\vec{v} = \lambda\vec{v}$$

Then  $\vec{v}$  is an **eigenvector** for A, and  $\lambda$  is the **eigenvalue**.