

the process so far.

1. Find Eigenvalues:

2. Find Eigenvectors:

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1. Find Eigenvalues:

Determine the eigenvalues λ of the matrix A by solving the characteristic polynomial $\det(A - \lambda I) = 0$ where I is the identity matrix.

2. Find Eigenvectors:

For each eigenvalue, find the corresponding eigenvectors by solving $(A - \lambda I)\vec{v} = 0$ which is equivalent to solving $A\vec{v} = \lambda\vec{v}$

diagonalization

- Diagonal matrices are the easiest kind of matrices to understand: they just scale the coordinate directions by their diagonal entries.
- **Matrix diagonalization** is powerful: it transforms a given square matrix into a diagonal matrix,
 - which is much easier to analyze and compute because their non-diagonal elements are zero
 - e.g. calculations like powers and determinants easy to perform