

$$\det(Q) = \det(Q^{-1}) = \frac{1}{\det(Q)} \rightarrow \det(Q^T Q) = \det(I) = 1$$

$$Q^T Q = I \quad Q^{-1} Q = I$$

$$\det(B^T A B) = \det(A) \quad \det(A B) = \det(A) \det(B)$$

$$P = \frac{1}{\sqrt{2}} \begin{bmatrix} 1 & 1 \\ 1 & -1 \end{bmatrix}$$

$$\det(A) = \det(B) \det(C) \quad \det(A B) = \det(A) \det(B)$$

$$V_1 = K V_2 \quad V_2 = C_1 V_1 + C_2 V_2$$

$$A = P^{-1} D P$$

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$$\begin{bmatrix} 3 & 0 \\ 0 & 1 \end{bmatrix} \quad \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$$

$$A = \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$$

$$RCA$$

$$1000 \times 1000$$

$$A = \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$$

$$SVD$$

$$U = \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$$

$$V = \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$$

$$D = \begin{bmatrix} 2 & 0 \\ 0 & 0 \end{bmatrix}$$

$$U = \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$$

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$$V^T A V$$

$$Q_{11} V_1 + Q_{12} V_2 \dots$$

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1. basis

2. determinant

3. Vectors

4. Lin. space

5. det. product

6. cos.

7. Matrix

8. Norm

9. T. inverse, trace

10. eigenvectors

11. C. p. d. h.

12. Lin. d. p. h. e. k.

13. Zet. k.

