

Linear Algebra

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University of Seoul
School of Computer Science
Minho Kim

Syllabus

course webpage:

<http://www.minho-kim.com/courses/10sp71007>

Table of Contents of the Textbook

1. Vectors
2. Systems of Linear Equations
3. Matrices
4. Eigenvalues and Eigenvectors
5. Orthogonality
6. Vector Spaces
7. Distance and Approximation

Applications (Five “vignettes” in the textbook)

- ▶ The codabar system (p.55)
 - dot product
- ▶ The global positioning system (p.119)
 - system of linear equations
- ▶ Robotics (p.224)
 - linear transformations
- ▶ Ranking sports teams and searching the Internet (p.353)
 - eigenvalues and eigenvectors
- ▶ Digital image compression (p.616)
 - singular value decomposition