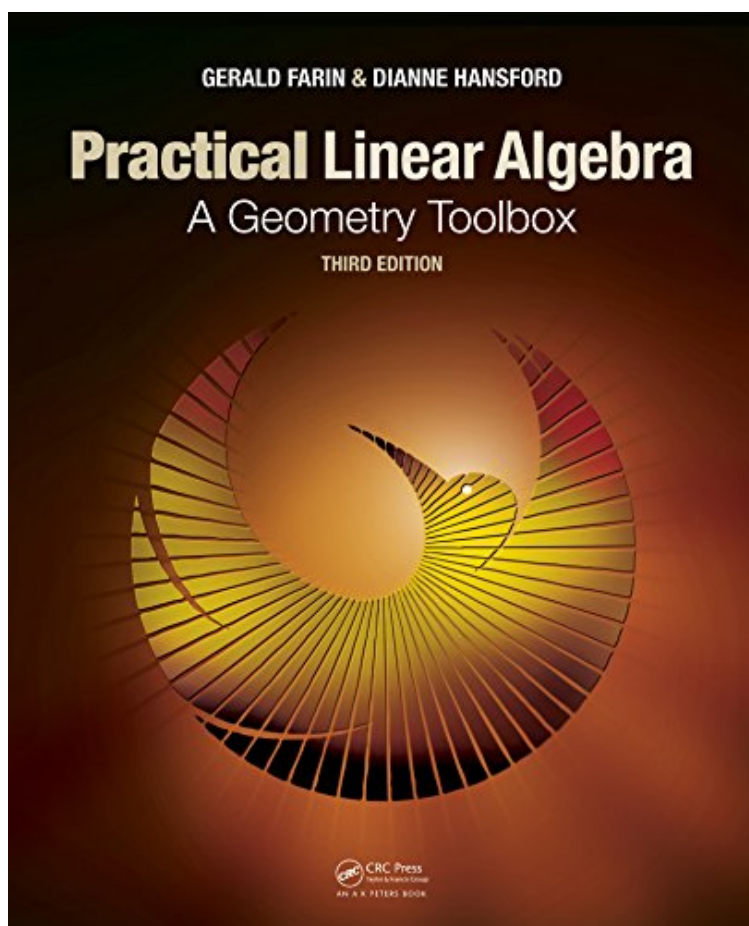


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Practical Linear Algebra: A Geometry Toolbox, Third Edition



*Par Gerald Farin, Dianne Hansford
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Présentation de l'éditeur Through many examples and real-world applications, Practical Linear Algebra: A Geometry Toolbox, Third Edition teaches undergraduate-level linear algebra in a comprehensive, geometric, and algorithmic way. Designed for a one-semester linear algebra course at the undergraduate level, the book gives instructors the option of tailoring the course for the primary interests: math, engineering, science, computer graphics, and geometric modeling. New to the Third Edition More exercises and applications Coverage of singular value decomposition and its application to the pseudoinverse, principal components analysis, and image compression More attention to eigen-analysis, including eigenfunctions and the Google matrix Greater emphasis on orthogonal projections and matrix decompositions, which are tied to repeated themes such as the concept of least squares To help students better visualize and understand the material, the authors introduce the fundamental concepts of linear algebra first in a two-dimensional setting and then revisit these concepts and others in a three-dimensional setting. They also discuss higher dimensions in various real-life applications. Triangles, polygons, conics, and curves are introduced as central applications

of linear algebra. Instead of using the standard theorem-proof approach, the text presents many examples and instructional illustrations to help students develop a robust, intuitive understanding of the underlying concepts. The authors website also offers the illustrations for download and includes Mathematica code and other ancillary materials. Presentation de l'diteur Through many examples and real-world applications, Practical Linear Algebra: A Geometry Toolbox, Third Edition teaches undergraduate-level linear algebra in a comprehensive, geometric, and algorithmic way. Designed for a one-semester linear algebra course at the undergraduate level, the book gives instructors the option of tailoring the course for the primary interests: math, engineering, science, computer graphics, and geometric modeling. New to the Third Edition More exercises and applications Coverage of singular value decomposition and its application to the pseudoinverse, principal components analysis, and image compression More attention to eigen-analysis, including eigenfunctions and the Google matrix Greater emphasis on orthogonal projections and matrix decompositions, which are tied to repeated themes such as the concept of least squares To help students better visualize and understand the material, the authors introduce the fundamental concepts of linear algebra first in a two-dimensional setting and then revisit these concepts and others in a three-dimensional setting. They also discuss higher dimensions in various real-life applications. Triangles, polygons, conics, and curves are introduced as central applications of linear algebra. Instead of using the standard theorem-proof approach, the text presents many examples and instructional illustrations to help students develop a robust, intuitive understanding of the underlying concepts. The authors website also offers the illustrations for download and includes Mathematica code and other ancillary materials.