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A Textbook on Linear Algebra with its Applications

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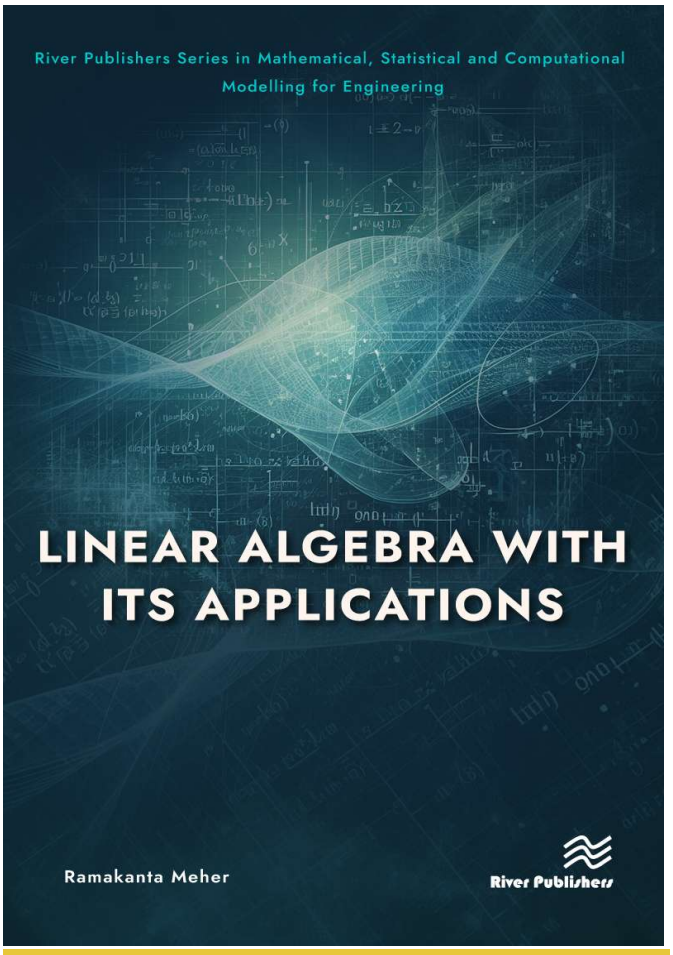

This book contains a detailed discussion of the matrix operation, its properties, and its applications in finding the solution of linear equations and determinants. Linear algebra is a subject that has found the broadest range of applications in all branches of mathematics, physical and social sciences, and engineering. It has a more significant application in information sciences and control theory.
A definition of linear algebra is that it is a part of algebra which is concerned with equations of the first degree. Thus, at the fundamental level, it involves the discussion of matrices and determinants, and the solutions of systems of linear equations, which have a wide application in further discussion of this subject.
Technical topics discussed in the book include:

- Matrices
- Vector spaces
- Eigenvalue and eigenvectors
- Linear transformation
- Inner product spaces
- Diagonalizations
- Applications to conics and quadrics
- Canonical forms
- Least squares problems.

TABLE OF CONTENTS

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