

# Preface

This is an introductory book on linear matrix transforms, and should be of interest to animators and programmers working in computer games and animation. Although I have covered many of the topics in other books, I have never addressed the subject of matrices as an individual topic—hence the reason for this book.

The book's structure is very simple: Chap. 1 provides a short introduction to the book's objectives. Chapter 2 gives the reader some historical background and algebraic evidence for the matrix as a valid mathematical object, and its associated scalar-valued determinant. Chapter 3 describes how the determinant is computed for different size matrices. Chapter 4 provides a formal description of matrix algebra, with plenty of worked examples. Chapters 5 and 6 describe 2D and 3D transforms respectively, again with plenty of worked examples. Chapter 7 provides an introduction to quaternions with an emphasis on their matrix formulation. Finally, Chap. 8 concludes the book.

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