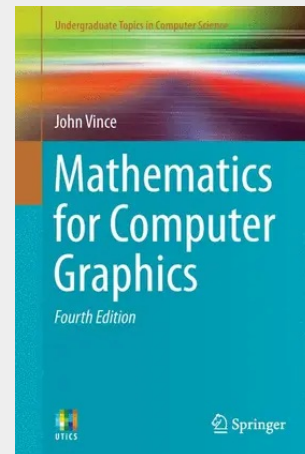


Mathematics for Computer Graphics

John Vince explains a wide range of mathematical techniques and problem-solving strategies associated with computer games, computer animation, virtual reality, CAD and other areas of computer graphics in this updated and expanded fourth edition. The first four chapters revise number sets, algebra, trigonometry and coordinate systems, which are employed in the following chapters on vectors, transforms, interpolation, 3D curves and patches, analytic geometry and barycentric coordinates. Following this, the reader is introduced to the relatively new topic of geometric algebra, and the last two chapters provide an introduction to differential and integral calculus, with an emphasis on geometry. Mathematics for Computer Graphics covers all of the key areas of the subject, including: - Number sets - Algebra - Trigonometry - Coordinate systems - Transforms - Quaternions - Interpolation - Curves and surfaces - Analytic geometry - Barycentric coordinates - Geometric algebra - Differential calculus - Integral calculus This fourth edition contains over 120 worked examples and over 270 illustrations, which are central to the author's descriptive writing style. Mathematics for Computer Graphics provides a sound understanding of the mathematics required for computer graphics, giving a fascinating insight into the design of computer graphics software and setting the scene for further reading of more advanced books and technical research papers.

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