



# A Sampler of Useful Computational Tools for Applied Geometry, Computer Graphics, and Image Processing

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Written by a team of highly respected professors, the book can be used in a one-semester, intermediate-level course in computer science. It takes a practical problem-solving approach, avoiding detailed proofs and analysis. Suitable for readers without a deep academic background in mathematics, the text explains how to solve non-trivial geometric problems. It quickly gets readers up to speed on a variety of tools employed in visual computing and applied geometry.

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?*MAA Reviews*, April 2016

"This book presents solutions to many commonly used computational problems in applied geometry, computer graphics, and image processing. It covers a wide range of mathematics in a practical and useful way. ... the content is easy to follow even for readers without a good mathematical background. ... The book is a good starting point for those who want to become familiar with a wide area of applications of mathematical tools in computer graphics and image processing. It can be used as a semester textbook or for self-study. It is intended for practitioners who want to learn the most commonly used methods in the mentioned scientific area."

?*Zentralblatt MATH* 1322

"This is the book I really missed and was thinking of authoring myself for my students. This book did it perfectly. It compactly and beautifully explains important mathematical tools for problem solving in geometry and image processing. A must-read for practitioners, researchers, and students in graphics."

?Takeo Igarashi, The University of Tokyo

"An intuitive quick tour of many important topics in geometry and image processing, showing insightful associations between concepts in geometry and algebra. It is illustrated using practical examples and is a fun refresher even for those already familiar with the topics."

?Hugues Hoppe, Microsoft Research

"The book provides clear and intuitive coverage of important mathematical tools for graphics and image processing. Covered topics are useful for practitioners and students in the field, with carefully selected eye-opening examples. It will be enjoyed by beginners and experienced alike, improving everyone's ability for analysis and problem solving."

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