Basics of Computer Aided Geometric Design: An Algorithmic Approach, 2/e

M. Ganesh

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About the Book

The aim of this book is to provide a good foundation of Computer Aided Geometric Design to students who are doing undergraduate courses in engineering, especially Mechanical Engineering, Computer Science, Geometric Modeling, and CAD/CAM.

This Second Edition is organized in three parts:

Part - I deals with the basics of Differential Geometry of curves and surfaces, a good understanding of which is essential prerequisite to what follows in Part - II.

Part - II is devoted entirely to the geometric designs of curves and surfaces, which are used in the development of Computer Graphics and profiles of hulls of ships, aircraft wings, satellites, (to name a few large-scale products) as also telephones, mobile phones, fancy flower vases (to name a few small-scale products).

Part - III deals with certain useful generalizations of the earlier concepts, like rational Bezier and B-Spline curves and surfaces and advanced techniques like blending and corner-cutting.

Concepts introduced are illustrated with examples, which are completely worked out. A list of problems is also given at the end of each chapter.

Salient Features

Salient Features:

‣ This new edition has a new Part-III on advanced topics containing two new chapters – Rational B-spline curves and surfaces, and certain assorted methods.
‣ All the theorems and relationships have been derived and explained in an easy-to-understand manner.
‣ Chapters includes a summary, references, exercise problems, and appendices for further elaboration on the important functions, variables, derivations, etc.
‣ Includes a lot of worked examples for easy understanding of the text.

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About the Author

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