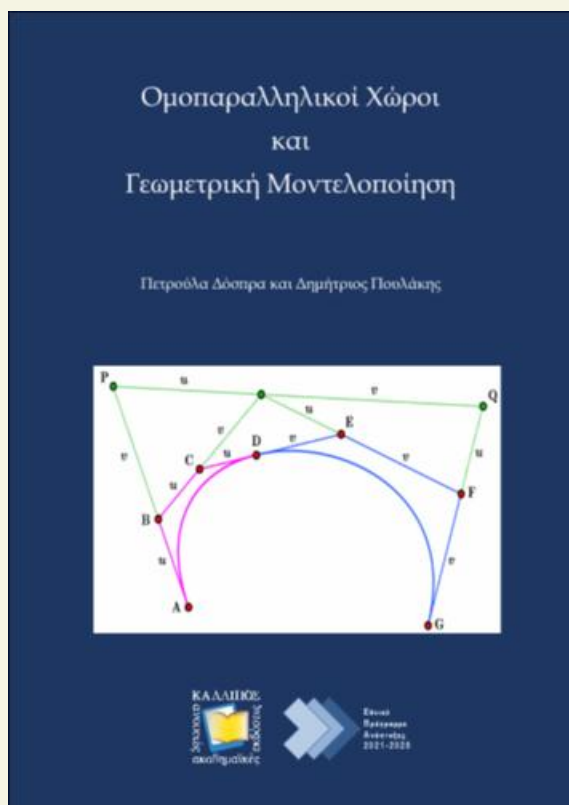




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Abstract

The purpose of the book is to introduce the concepts and methods required to address Geometric Modeling problems. It first provides an introduction to Affine Geometry, giving the basic concepts and results on the affine spaces, the affine maps, as well as some classical theorems. Then this material is used for the presentation of polynomial curves and surfaces (Bézier form, B-spline curves and surfaces, interpolation curves, etc.), which are

basic tools of Geometric Modelling. The approach chosen for the presentation of these topics is known as “blossoming” and is based on the use of polar forms, which lead naturally to the description of polynomial curves and surfaces with the help of their control points. This book is addressed to Mathematicians, Engineers, and Computer Scientists, who wish to familiarize themselves and study in depth basic tools of Geometric Modelling.

