Variational Regularization of 3D Data: Experiments with MATLAB(R)

By Hebert Montegranario

Springer. Paperback. Condition: New. 85 pages. Dimensions: 9.0in. x 6.0in. x 0.4in.Variational Regularization of 3D Data provides an introduction to variational methods for data modelling and its application in computer vision. In this book, the authors identify interpolation as an inverse problem that can be solved by Tikhonov regularization. The proposed solutions are generalizations of one-dimensional splines, applicable to n-dimensional data and the central idea is that these splines can be obtained by regularization theory using a trade-off between the fidelity of the data and smoothness properties. As a foundation, the authors present a comprehensive guide to the necessary fundamentals of functional analysis and variational calculus, as well as splines. The implementation and numerical experiments are illustrated using MATLAB. The book also includes the necessary theoretical background for approximation methods and some details of the computer implementation of the algorithms. A working knowledge of multivariable calculus and basic vector and matrix methods should serve as an adequate prerequisite. This item ships from multiple locations. Your book may arrive from Roseburg,OR, La Vergne,TN. Paperback.

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