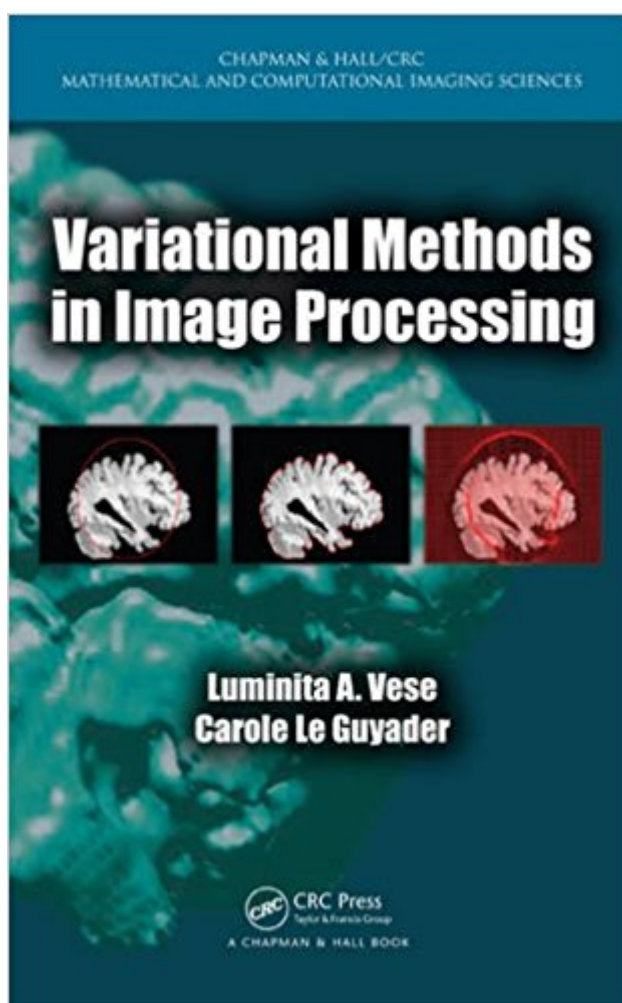


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Variational Methods In Image Processing (Chapman & Hall/CRC Mathematical And Computational Imaging Sciences Series)



Synopsis

Variational Methods in Image Processing presents the principles, techniques, and applications of variational image processing. The text focuses on variational models, their corresponding Euler–Lagrange equations, and numerical implementations for image processing. It balances traditional computational models with more modern techniques that solve the latest challenges introduced by new image acquisition devices. The book addresses the most important problems in image processing along with other related problems and applications. Each chapter presents the problem, discusses its mathematical formulation as a minimization problem, analyzes its mathematical well-posedness, derives the associated Euler–Lagrange equations, describes the numerical approximations and algorithms, explains several numerical results, and includes a list of exercises. MATLAB® codes are available online. Filled with tables, illustrations, and algorithms, this self-contained textbook is primarily for advanced undergraduate and graduate students in applied mathematics, scientific computing, medical imaging, computer vision, computer science, and engineering. It also offers a detailed overview of the relevant variational models for engineers, professionals from academia, and those in the image processing industry.

Book Information

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