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| Autore | Iske Armin |
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| Descrizione fisica | 1 online resource (X, 358 p. 34 illus., 15 illus. in color.) |
| Collana | Texts in Applied Mathematics, , 0939-2475 ; ; 68 |
| Disciplina | 511.4 |
| Soggetti | Approximation theory<br>Computer science - Mathematics<br>Signal processing<br>Image processing<br>Speech processing systems<br>Approximations and Expansions<br>Computational Mathematics and Numerical Analysis<br>Signal, Image and Speech Processing |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | 1 Introduction -- 2 Basic Methods and Numerical Analysis -- 3 Best Approximations -- 4 Euclidean Approximations -- 5 Chebyshev Approximations -- 6 Asymptotic Results -- 7 Basic Concepts of Signal Approximation -- 8 Kernel-Based Approximation -- 9 Computational Topology -- References -- Subject Index -- Name Index. |
| Sommario/riassunto | This textbook offers an accessible introduction to the theory and numerics of approximation methods, combining classical topics of approximation with recent advances in mathematical signal processing, and adopting a constructive approach, in which the development of numerical algorithms for data analysis plays an important role. The following topics are covered: * least-squares approximation and regularization methods * interpolation by algebraic and trigonometric polynomials * basic results on best approximations * Euclidean approximation * Chebyshev approximation * asymptotic concepts: error estimates and convergence rates * signal approximation by |

Fourier and wavelet methods * kernel-based multivariate approximation * approximation methods in computerized tomography Providing numerous supporting examples, graphical illustrations, and carefully selected exercises, this textbook is suitable for introductory courses, seminars, and distance learning programs on approximation for undergraduate students.