



Fuzzy Mathematics: Approximation Theory [

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Springer Berlin Heidelberg,
2010

Monografía

This monograph belongs to the broader area of Fuzzy Mathematics and it is the first one in Fuzzy Approximation Theory. The chapters are self-contained with lots of applications to teach several advanced courses and the topics covered are very diverse. An extensive background of Fuzziness and Fuzzy Real Analysis is given. The author covers Fuzzy Differentiation and Integration Theory followed by Fuzzy Ostrowski inequalities. Then results on classical algebraic and trigonometric polynomial Fuzzy Approximation are presented. The author develops a complete theory of convergence with rates of Fuzzy Positive linear operators to Fuzzy unit operator, the so-called Fuzzy Korovkin Theory. The related Fuzzy Global Smoothness is included. Then follows the study of Fuzzy Wavelet type operators and their convergence with rates to Fuzzy unit operator. Similarly the Fuzzy Neural Network Operators are discussed followed by Fuzzy Random Korovkin approximation theory and Fuzzy Random Neural Network approximations. The author continues with Fuzzy Korovkin approximations in the sense of Summability. Finally fuzzy sense differences of Fuzzy Wavelet type operators are estimated. The monograph's approach is quantitative and the main results are given via Fuzzy inequalities, involving Fuzzy moduli of continuity, that is Fuzzy Jackson type inequalities. The exposed theory is destined and expected to find applications to all aspects of Fuzziness from theoretical to practical in almost all sciences, technology, finance and industry. Also it has its interest within Pure Mathematics. So this monograph is suitable for researchers, graduate students and seminars of theoretical and applied mathematics, computer science, statistics and engineering

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Título: Fuzzy Mathematics: Approximation Theory Recurso electrónico-En línea] by George A. Anastassiou

Editorial: Berlin, Heidelberg Springer Berlin Heidelberg 2010

Descripción física: digital

Tipo Audiovisual: Engineering Artificial intelligence Distribution (Probability theory) Engineering Computational Intelligence Artificial Intelligence (incl. Robotics) Probability Theory and Stochastic Processes

Mención de serie: Studies in Fuzziness and Soft Computing 1434-9922 251

Documento fuente: Springer eBooks

Nota general: Engineering (Springer-11647)

Contenido: About H-Fuzzy Differentiation -- On Fuzzy Taylor Formulae -- Fuzzy Ostrowski Inequalities -- A Fuzzy Trigonometric Approximation Theorem of Weierstrass-Type -- On Best Approximation and Jackson-Type Estimates By Generalized Fuzzy Polynomials -- Basic Fuzzy Korovkin Theory -- Fuzzy Trigonometric Korovkin Theory -- Fuzzy Global Smoothness Preservation -- Fuzzy Korovkin Theory and Inequalities -- Higher order Fuzzy Korovkin Theory Using Inequalities -- Fuzzy Wavelet Like Operators -- Estimates To Distances Between Fuzzywaveletlike Operators -- Fuzzy Approximation By Fuzzy Convolution Operators.-Degree of Approximation of Fuzzy Neural Network Operators, Univariate Case -- Higher Degree of Fuzzy Approximation By Fuzzy Wavelet Type and Neural Network Operators -- Fuzzy Random Korovkin Theorems and In-Equalities -- Fuzzy-Random Neural Network Approximation Operators, Univariate Case- A-Summability and Fuzzy Korovkin Approximation -- A-Summability and Fuzzy Trigonometric Korovkin Approximation -- Uniform Real and Fuzzy Estimates For Distances Betweenwavelet Type Operators At Real and Fuzzy Environment

Restricciones de acceso: Accesible sólo para usuarios de la UPV

Tipo recurso electrónico: Recurso a texto completo

Detalles del sistema: Forma de acceso: Web

ISBN: 9783642112201 978-3-642-11220-1

Entidades: SpringerLink (Servicio en línea)

Enlace a formato físico adicional: Printed edition 9783642112195

Punto acceso adicional serie-Título: Studies in Fuzziness and Soft Computing 1434-9922 251

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