



# Fuzzy Mathematics: Approximation Theory [

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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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