

A Fuzzy Nonlinear Regression Model for Interval Type-2 Fuzzy Sets

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Abstract : This paper presents a regression model for interval type-2 fuzzy sets based on the least squares estimation technique. Unknown coefficients are assumed to be triangular fuzzy numbers. The basic idea is to determine aggregation intervals for type-1 fuzzy sets, membership functions of whose are low membership function and upper membership function of interval type-2 fuzzy set. These aggregation intervals were called weighted intervals. Low and upper membership functions of input and output interval type-2 fuzzy sets for developed regression models are considered as piecewise linear functions.

Keywords : interval type-2 fuzzy sets, fuzzy regression, weighted interval

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