

# Induced OWA operators in linear regression

Por: [Flores-Sosa, M](#) (Flores-Sosa, Martha)<sup>[1]</sup>; [Aviles-Ochoa, E](#) (Aviles-Ochoa, Ezequiel)<sup>[1]</sup>; [Merigo, JM](#) (Merigo, Jose M.)<sup>[2,3]</sup>

JOURNAL OF INTELLIGENT & FUZZY SYSTEMS

Volumen: 38

Número: 5

Páginas: 5509-5520

DOI: 10.3233/JIFS-179642

Fecha de publicación: 2020

Tipo de documento: Article

[Ver impacto de la revista](#)

## Abstract

The induced ordered weighted average (IOWA) is an aggregation operator that provides a parameterized family of operators between the minimum and the maximum. This work presents a new application that uses the simple linear regression (LR) and the IOWA operator in the same formulation. We study some of its main properties and particular cases. The main advantage of the linear regression IOWA operator is that it unifies the IOWA operator with the linear regression in the same formulation considering the degree of optimism and pessimism of the decision maker. Thus, we can under- or overestimate the regression according to complex attitudes that the decision may have in the analysis. The work ends analyzing the applicability of this new approach in a problem regarding exchange rate forecasting. The objective of the new approach is to analyze the information in a more complete way.

## Palabras clave

Palabras clave de autor: [IOWA operator](#); [linear regression](#); [aggregation operator](#)

KeyWords Plus: [ORDERED WEIGHTED AVERAGE](#); [DECISION-MAKING](#); [AGGREGATION OPERATORS](#); [VARIANCE](#); [MODELS](#); [INCLUSION](#); [TIME](#)

## Información del autor

Dirección correspondiente: Flores-Sosa, M (corresponding author)

Univ Autonomous Occidente, Culiacan, Sinaloa, Mexico.

## Direcciones:

[ 1 ] Univ Autonomous Occidente, Culiacan, Sinaloa, Mexico

+ [ 2 ] Univ Technol Sydney, Fac Engn & Informat Technol, Sch Informat Syst & Modelling, Ultimo, NSW, Australia

+ [ 3 ] Univ Chile, Sch Business & Econ, Dept Management Control & Informat Syst, Santiago, Chile

Direcciones de correo electrónico: [martha.flores@udo.mx](mailto:martha.flores@udo.mx)

## Editorial

IOS PRESS, NIEUWE HEMWEG 6B, 1013 BG AMSTERDAM, NETHERLANDS

### **Información de la revista**

- **Impact Factor:** [Journal Citation Reports](#)

### **Categorías / Clasificación**

**Áreas de investigación:**Computer Science

**Categorías de Web of Science:**Computer Science, Artificial Intelligence

### **Información del documento**

**Idioma:**English

**Número de acceso:** WOS:000541708200018

**ISSN:** 1064-1246

**eISSN:** 1875-8967