

Information fusion by extended power-based aggregation in image segmentation

Endre Pap • Marija Delić • Ljubo Nedović

Abstract

In this paper we construct two extended aggregation functions, extended powers product and extended weighted arithmetic mean of powers. Their basic properties are examined, as well as certain properties of distance functions constructed by them. In addition, one pixel descriptor, which is motivated by Local Binary Pattern family of descriptors (LBPs), is introduced. We give an application of the introduced extended aggregation functions and descriptor, by a construction of a new distance function, used in Fuzzy c-Means Clustering Algorithm (FCM) for image segmentation.

Keywords: Extended aggregation function, Distance function, Image segmentation, Pixel descriptor, Fuzzy c-Means algorithm