

An Extended Version of Gustafson-Kessel Clustering Algorithm for Evolving Data Stream Clustering, Evolving Intelligent Systems: Methodology and Applications

Abstract

The chapter deals with a recursive clustering algorithm that enables a real time partitioning of data streams. Proposed algorithm incorporates the advantages of the Gustafson-Kessel clustering algorithm of identifying clusters with different shape and orientation while expanding its area of application to the challenging problem of real time data clustering. The algorithm is applicable to a wide range of practical evolving system type applications as diagnostics and prognostics, system identification, real time classification, and process quality monitoring and control.