A fuzzy classification using a Type-2 fuzzy model in social networks

Mansoureh Naderipour[1], Susan Bastani[2], Mohammad Fazel Zarandi[3], Burhan Turksen[4]

[1]Department of Industrial Engineering Amirkabir University of Technology Tehran, Iran.
[2]Department of Social Science Alzahra University Tehran, Iran.
[3] Department of Industrial Engineering Amirkabir university of Technology Tehran, Iran.
[4] Mechanical & Industrial Engineering University of Toronto Toronto, Canada.

Abstract

In this paper, we study a type-2 fuzzy classification method. Granular computing can help us to model the relationships between human-based system and social sciences in this field. The links in a social network often reflect social relationships among users. In this work, we investigate a classification identifying the relationships among social network users based on certain social network property, granular computing approach and Type 2 fuzzy logic. We evaluate our approach on large scale real-world data from Renren network, showing that the accuracy of the prediction of our classification algorithm is higher than the type 1 fuzzy analysis and the crisp approach.

Keywords: Classification, Type-2 Fuzzy Sets, Social Network, Relationship, Granular computing.