

Documents

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Possibilistic AIRS induction from uncertain data

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Abstract

This paper presents a new approach in machine learning, especially, in supervised classification and reasoning under uncertainty. For many classification problems, uncertainty is often inherent in modeling applications and should be treated carefully and not rejected to make better decisions. Artificial immune recognition system (AIRS) is a well-known classifier that has provided good results with certain data. However, this method is not able to cope with uncertainty. To overcome this limitation, we propose a new classification approach combining the AIRS and possibility theory. The new approach is allowing to deal with uncertain attribute and also class values of training instances. The uncertainty is expressed via possibility distributions. Experimentations on real datasets from the U.C.I machine learning repository show good performances of the proposed approach. © 2015, Springer-Verlag Berlin Heidelberg.

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