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Fuzzy ARTMAP with feature weighting. (English) [Zbl 1157.68411](#)

Gammerman, A. (ed.), Artificial intelligence and applications. Machine learning. As part of the 26th IASTED international multi-conference on applied informatics. Calgary: International Association of Science and Technology for Development (IASTED); Anaheim, CA: Acta Press (ISBN 978-0-88986-710-9/CD-ROM). 91-96 (2008).

Summary: We introduce a novel Fuzzy ARTMAP (FAM) architecture: FAM with Feature Weighting (FAMFW). In the first stage, the features of the training data are weighted. In the second stage, the obtained weights are used to improve the FAMFW training. The effect of this approach is a more sensitive FAM category determination: category dimensions in the direction of relevant features are decreased whereas category dimensions in the direction of non-relevant feature are increased. Potentially, any feature weighting method could be used, which makes the FAMFW very general. In our study, we use a feature weighting algorithm based on the Neural-Gas algorithm.

For the entire collection see [\[Zbl 1154.68012\]](#).

MSC:

68T05 Learning and adaptive systems in artificial intelligence

68T10 Pattern recognition, speech recognition

Keywords:

[fuzzy ARTMAP](#); [feature weighting](#); [classification](#); [machine learning](#)