

# Integration of ART2 Neural Network and Fuzzy Sets Theory for Market Segmentation

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**Abstract**— In order to simulate human beings' thinking, this study is dedicated to proposing a novel fuzzy neural network (FNN) to cluster the fuzzy data being collected from the fuzzy questionnaires. The proposed FNN is the integration of adaptive resonance theory 2 (ART2) neural network and fuzzy sets theory. It can handle the fuzzy inputs as well as the fuzzy weights. A case study for mobile phone market segmentation revealed that the proposed fuzzy ART2 neural network is able to cluster the fuzzy data precisely.

**Keywords**—ART2, Fuzzy sets theory, Fuzzy neural networks, Market segmentation.

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