Fuzzy radial basis function network and its application in credit rating

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ABSTRACT

When a bank processes a loan business, it carries some credit risks. Therefore, assessing the loaner's credit is critical. A bank evaluates a customer's credit according to "The credit rating standard for lending to enterprises" published by Committee of the Bank of Taipei City. This standard can be divided into the following three categories: 1.Financial condition of the enterprise, 2.Management, and 3.The particular characteristics of the main product, competition and expectation. In the Financial condition of the enterprise categories, financial ratios are calculated to evaluate the financial condition of an enterprise and each ratio is represented by five different variables, from 1 to 5. This due to the problems of anticatastrophism and does not satisfy sensitivity. Thus, this research established a fuzzy financial credit rating system. The center of nonsymmetric triangle fuzzy number is produced by Syau, Hsish, and Lee proposed. The left and right points are produced by uniform distribution. However, the radial basis function network is used in function approximation efficiently. The fuzzy radial basis function network is established for an automatic financial credit rating model.

Keywords : financial credit rating, fuzzy radial basis function, fuzzy regression analysis

Table of Contents

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