

Performance modelling of the computational hardware: A statistical approach

Akman, I (Akman, Ibrahim); Yesilcay, Y (Yesilcay, Yasar)

Abstract

This paper proposes and uses multivariate methods as a tool to evaluate performances of the hardware of microcomputers using their performance data, speed and price. The evaluation is done by classifying the PCs into different categories in terms of their performances. In order to form these categories, the cluster analysis and discriminant analysis methods are used in sequence. The former groups the PCs into "equivalent" classes and the later constructs a function for classification, called discriminant function, based on "equivalent" classes. Elementary statistical measures are also associated to extract some descriptive results as a part of the analyses. The performance of proposed method is demonstrated with data from 173 models of different PC brands. The discriminant function obtained is shown to classify PCs according to their performances with high probability of correct classification, namely 94.8%.