

Fuzzy base CAT system for student's ability evaluation

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Abstract

The process of student evaluation is based on a procedure where we assume that the student belongs just to one set in a completely specified way, for example the set of excellent students, or the set of regular students. In this paper we use fuzzy sets concepts just to propose a different procedure which can be useful to manage the student's performance in a variation of a computerized adaptive testing administration process. This can be made by assuming that, for a given student, a membership function is assigned. In this system, fuzzy controller is used for student's ability evaluation based on CAT (Computer Adaptive Testing) system. There are three types of questions forms: basic, intermediate and advanced. A student can choose one of these types of question and answer these questions. Inputs of membership functions (time and marks) are given by the student's answer sheet and using the time interval. Inputs of membership functions (time and marks) are given by the student's answer sheet and using the time interval. There are three types of student's ability (poor, regular and brilliant) as an output. Center of Gravity (COG) defuzzification method is

used in this system. This system is implemented by using C# programming language.