A Fuzzy Inference based Decision Support System for Solving the University-Course Admission Choice Problem

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Abstract

The university admission choice problem is that of selecting a combination of a course of study and a university, either as first or second choice, given a candidate’s academic ability and interest with the goal of maximizing the candidate’s chance of securing university admission in a competitive process. This study was aimed at developing a decision support system for university admission seekers, who are faced with the admission choice problem, using the concept of fuzzy logic. Through literature search, interviews, and expert knowledge mining, relevant factors characterizing the Nigerian University admission system were determined and the dynamics of their interactions appropriately modelled. The equivalent Fuzzy Inference System of the decision process was developed. Model parameterization was carried out using information from the Nigerian University Admission System. A two state variable model incorporating student ability and interest was adopted. The resulting fuzzy inference model generates very reasonable decisions on sample test combinations. It is concluded that fuzzy inference system is a veritable tool for building practical decision support systems for the University course admission choice problem.
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**Index Terms**

Computer Science  
Fuzzy Systems

**Keywords**  
Fuzzy inference  
Soft computing  
Decision support system  
University admission  
Education management