

# **Abstract**

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## **A Decision Support System for University Preadmission Process**

Data of graduated students for 10 academic years (1996-2006) of AASTMT were utilized to build up an automated advising system for fresh students. The study considered seven input variables for each graduated student high school score, high school certificate type, place of issue the certificate, student age, gender, graduation GPA and number of semesters. Statistical analysis was first applied to examine the relationship between each independent variable and student's performance (GPA). Then, an advising system for student during their university admission period was developed with the use of cluster analysis and programming to provide best recommendations for the newcomer students. Based on fresh students' input data, the system provides three options of scenarios. The first scenario suggests a list of four recommended majors (department/college) based on best achievements of similar input data of graduated students the second scenario advises students of what majors to be avoided according to their data, while the third scenario examines the student's own Selection of a certain major. The reliability of the developed system was verified by examining students' data that were not included in the built-in data system. The results showed good agreement between system outputs and the inputs of the tested data. Thus, the developed decision support system was proven to work properly matching the interests of fresh students, their parents and the institution.