



APPLICATIONS QUEST: USING CLUSTERING ALGORITHMS TO ADDRESS AFFIRMATIVE ACTION

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Two land mark cases challenged the University of Michigan admissions policies, one focused on Law School admission and the other on undergraduate admissions. In *Grutter v. Bollinger*, the case focused on the Law School, the U. S. Supreme Court ruled 5-4 in favor of the Law School. However, in the *Gratz v. Bollinger*, by a vote of 6-3, the Court reversed, in part, the University's undergraduate admissions policy to provide points for race/ethnicity. Therefore, the Court decided that race could be considered in admissions decision, but could not be the deciding factor. Although this decision appears to support affirmative action efforts, it limits how race can be used to achieve diversity goals. In sum, the Supreme Court ruled that diversity could be used in university-based admissions, but did not specify how diversity should be used. As a result, the University of Michigan and several other academic institutions have spent large sums of money to holistically evaluate admissions applications. When university-based admission offices holistically evaluate applications, how does this translate into practice? What techniques could be employed to compare large volumes of applications? In an effort to address these questions, Applications Quest was developed. Applications Quest is software that clusters admissions applications. This software uses well known clustering algorithms from computer science and information retrieval to automatically compare thousands of applications to each other and place them into clusters or groups, based upon a holistic view of their similarity (i.e., similar applications appear within the same cluster). The clusters represent diverse application pools with respect to a holistic view of each application. Applications Quest uses attribute-values on an application to determine similarity. For example, the more attribute-values two applications have in common, the more likely they will be clustered together. University-based admission offices can use this software to define diversity within an application pool based upon the holistic view of all the applications where race/ethnicity is one of many attributes used to compare applications. This approach adheres to the Supreme Court's ruling because it does not assign points to race/ethnicity. The software simply uses race/ethnicity in conjunction with all the other attributes to compare applications.