

Research on some approximate search methods and development of an application to support reviewer selection for the Journal of Science and Technology - Thai Nguyen University

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Abstract: This study investigates approximate search methods and develops a support application for selecting peer reviewers for the Journal of Science and Technology at Thai Nguyen University. The research addresses the challenge of efficiently matching submitted manuscripts with appropriate reviewers from a large, specialized academic database. We explore and compare several approximate search techniques, including locality-sensitive hashing and vector space models, to handle the inherent ambiguity and high dimensionality of research keywords and expertise profiles. A prototype application is designed and implemented, integrating these methods to automate the initial screening and recommendation of potential reviewers. The system's performance is evaluated based on retrieval accuracy, computational efficiency, and relevance of recommendations. Experimental results demonstrate that the proposed approach significantly reduces manual search time while maintaining a high degree of relevance in reviewer suggestions. This work provides a practical tool for editorial management and contributes to improving the peer review process within the university's academic publishing framework.

Keywords: approximate search methods, reviewer selection, journal management, academic publishing