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EVALUATING THE EFFECTIVENESS OF A MACHINE LEANING MODEL FOR RECOMMENDATION SYSTEM FOR GENERIC COMPETENCY DEVELOPMENT IN HIGHER EDUCATION

Adam Ka Lok Wong
School of Professional Education and Executive Development, the Hong Kong Polytechnic University, Hong Kong, China
spklwong@speed-polyu.edu.hk

Abstract

Generic competence (GC) is an important element in the development of students in tertiary education. Activities that contribute to the development of GCs are called GC Development Activities (GCDAs). This research investigates the effectiveness of a recommendation system for students to join GCDAs. At a self-financed higher education institution, the investigators evaluated the performance of various recommendation algorithms, including collaborative filtering and content-based recommendation, in providing systematic recommendations on the selection of GDAs. Then the investigators developed a machine learning model for building a recommendation system for generic competency development. The recommendation system was trained using the GCDAs joined by the students in the past. Then it made

recommendations to other students on what GCDAs are suitable for them. The recommendation system was tried by a selected group of students at the institution. Then the effectiveness of the system was measured in terms of the acceptance of the system by the students, and in terms of the improvement in GC of the students.

The project will benefit students, academics, and institutions. Students, especially freshmen, will be able to further enhance their generic competence by selecting suitable activities to develop their GCs. Student advisors will be able to provide advice on non-academic development in an evidence-based and efficient manner. Educational institutions will also be able to use their resources more efficiently to provide student activities that consider students' whole-person development.