

A Machine Learning Based Framework for Education Levelling in Multicultural Countries: UAE as a Case Study

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Abstract : In Abu Dhabi, there are many different education curriculums where sector of private schools and quality assurance is supervising many private schools in Abu Dhabi for many nationalities. As there are many different education curriculums in Abu Dhabi to meet expats' needs, there are different requirements for registration and success. In addition, there are different age groups for starting education in each curriculum. In fact, each curriculum has a different number of years, assessment techniques, reassessment rules, and exam boards. Currently, students that transfer curriculums are not being placed in the right year group due to different start and end dates of each academic year and their date of birth for each year group is different for each curriculum and as a result, we find students that are either younger or older for that year group which therefore creates gaps in their learning and performance. In addition, there is not a way of storing student data throughout their academic journey so that schools can track the student learning process. In this paper, we propose to develop a computational framework applicable in multicultural countries such as UAE in which multi-education systems are implemented. The ultimate goal is to use cloud and fog computing technology integrated with Artificial Intelligence techniques of Machine Learning to aid in a smooth transition when assigning students to their year groups, and provide leveling and differentiation information of students who relocate from a particular education curriculum to another, whilst also having the ability to store and access student data from anywhere throughout their academic journey.

Keywords : admissions, algorithms, cloud computing, differentiation, fog computing, levelling, machine learning

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