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| **Recommender System for Big Data in Education** | **Surabhi Dwivedi1 , Dr Kumari Roshn** | **2017** | **Educational data mining; recommender systems; big data analytics** | This section explains about the related work done for educational recommendation systems. Collaborative filtering technique and content based method has been used by the author Mei-Hua Hsu in his work personalized English learning recommender system for students [14] to set basic score of lessons. Clustering technique is then used to classify students into various subjects. Finally association rule has been used to generate the recommendation for various lessons. Educational data has been mapped to user/item by Nguyen, Lucas, Artus and Lars in their research work Recommender system for predicting student performance [17]. They are using matrix factorization technique to generate the recommendation and logistic regression to validate their approach.  Recommendation system can be proved to be very helpful to students to select the elective courses. The educational institute can design their syllabus to give more options to the students to choose subjects according to the specific skills and expertise of the students. Big data comes up with its own challenge to handle the data, but if it is appropriately managed, it can be beneficial to improve the quality of current education system and process. The suggestions generated by such systems can be useful to the educational institute to improve the performance of students, schools and teachers etc |
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| **Understanding Issues in Big Data Applications - A Multidimensional Endeavor** | **Daniel Staegemann - Matthias Volk**  **Naoum JamousKlaus Turowski** | 2018 | **Big Data, Quality Assurance, Testing, Projects, Strategic Planning, Socio-Technical-Systems** | During the last decade big data concept and its accompanying technologies emerged as one of the most researched topics in the scientific community. While in 2013 we - humankind- created around 910 exabytes of data, already in 2015, modern industry alone produced more than 1000 exabytes (Dobre and Xhafa 2014; Yin and Kaynak 2015). Using this enormous amount of data has a great potential. On one hand, regarding the increase in productivity and the financial gains of the companies (McAfee and Even though the influence on daily life is already tremendous, there is still much potential for advancements, which scientists, as well as practitioners, around the world are striving to realize (Jin et al. 2015; Mauro et al. 2016). One of the omnipresent challenges is the actual implementation and usage of big data solutions in enterprises (Assunção et al. 2015).  The publication at hand highlights the importance of the big data topic as well as the accompanying challenges and countermeasures, especially in terms of a later testing. In doing so various dimension were identified intersecting the grasp of socio-technical system. For this purpose, a literature review wasconducted to shed a light on the research gap. To bridge this gap, the possible points of failure regarding the used data, human interaction and utilized technology are presented, and possible solutions proposed. Moreover, the importance of testing and reviewing the built or used system and its components as a means of gaining competitive advantages is highlighted. |
| ***Labour Market Information Driven, Personalized, OER Recommendation System for Lifelong Learners*** | **Mohammadreza Tavakoli**  **Stefan T Mol**  ***Gbor Kismihk*** | 2020 | **Lifelong Learning, Open Education Resources, Recommender Systems, Labour Market Intelligence, Machine Learning, Text Mining** | The worlds of work and employment are changing rapidly in our post-industrial societieshe worlds of work and employment are changing rapidly in our post-industrial societies. Having access to reliable labour market information on skills and jobs is not easy. Currently, only several governments or inter-governmental organizations (the most prominent actors are the US Government, European Commission or Singapore) attempt to build skill inventories and occupational taxonomies (such as ESCO, ISCO or O\*NET).  Table 1 depicts learners’ properties in our OER recommender prototype. During the initialization of a new user, we capture known properties entered by users (i.e. Personal Information, Skill Level List, and Selected Job), and also a number of properties without values (i.e. Resource scores, Length scores, Quality scores, and Accessibility scores). To set an initial value for these unknown properties, we sample similar users, based on the known properties and use weighted average (based on similarity) of their properties as initial values for unknown properties.  In this paper, we showcased a hybrid OER Recommender system prototype to support individual skill development, targeting concrete, labour market oriented skills and jobs. For this prototype a skill extraction mechanism has been constructed. whichcaptures skill related sentences in vacancy announcements with balanced accuracy of 88.7%. These dynamically generated skills became individual learning objectives and were connected to OER |