Call For Papers: Special Issue on Early Prediction and Supporting of Learning Performance

Description:

Predicting student's learning performance (failure, dropout, etc.) in traditional face-to-face learning, on-line learning (LMS, MOOCs, etc.) and blended learning is a difficult but very important task in education. On the one hand, it has become a difficult challenge due to the high number of factors that can influence a student's final status. On the other hand, it is an important issue in education because it concerns many students of all levels (*primary* education, *secondary* education and tertiary or *higher* education) and institutions over the entire world. And also, an increasing in the number of low performance students can cause a lower graduation rates, an inferior institution reputation in the eyes of all involved, and it usually results in overall financial loss.

The task of predicting students' performance/grades/marks is one of the oldest and most studied task in Educational Data Mining (EDM) and Learning Analytics (LA) and a wide range of classification and regression algorithms and approaches have been successfully applied. Nowadays, there is a great interest in adapting these previous approaches and developing new ones for predicting as soon as possible what will be the final status of the students in the course. In particular, the early identification of vulnerable students who are prone to fail or drop their courses is crucial for the success of any learning method. In order to try to reduce the aforementioned problem, it is necessary to detect students who are at risk as early as possible and thus provide some care in order to intervene early to facilitate student success and to prevent these students from quitting their studies. In this line, it is important to realize that identifying students at risk of failure and dropping out is only the first step in truly addressing this issue. The next step is to implement programs to provide effective and appropriate prevention strategies. For example, to identify the specific needs and problems of each individual student who is in danger of failure or dropping out, or to providing generic (more than specific) support to students at risk, to inform timely at-risk students by e-mail or using dashboards, etc. Therefore, stakeholders should be able to attend to students' needs to help them in time to avoid failure and dropout.

In this special issue, we will solicit papers that cover recent trends and reports that discuss key successes, lessons-learned, and challenges for predicting student's performance as early as possible and methods for providing appropriate intervention based on predictions. The topics of interest include, but are not limited to:

- Gathering and preprocessing data for prediction students' performance/grades/marks.
- Dealing with specific data problems such as little mount of data, imbalanced nature of data, etc.
- Selecting and evaluating what are the most important very early factors/indicators that affect to student's final status.
- Developing and comparing Data Mining algorithms that work best for predicting student's performance as soon as possible.
- Identify a stage/time that can adequately balance the required timing of intervention with the quality of the prediction.
- Generalizing early prediction/intervention models in order can be applied/transferred to other different courses.
- Developing and testing Early Warning Systems (EWS) in Education.
- Evaluating what are the best remediation/intervention actions that could be done to address students at risk.
- Preventing and monitoring students at risk.
- Providing personalized feedback to students at risk.

Submission and Review Process:

1. Authors must send an initial proposal of paper (title, authors and abstract) directly to the editors of the special issue by e-mail ([cromero@uco.es, sventura@uco.es](mailto:cromero@uco.es)). The editors will pre-screen the proposals for relevance.
2. After receiving an initial acceptance from the editors, a full paper should be submitted to the IEEE TLT manuscript system (https://mc.manuscriptcentral.com/tlt-cs, by selecting the proper special issue name) to experience a regular review process.

   Full manuscripts should be prepared in accordance with the IEEE Transactions on Learning Technologies guidelines (http://www.computer.org/portal/web/tlt/author) and they should not be published or currently submitted for publication elsewhere.

Schedule:

- Proposal submission due: 1 Jun, 2018
- Initial notification: 30 Jun, 2018
- Full manuscripts due: 1 September, 2018
- Completion of first review round: 1 December, 2018
- Revised manuscripts due: 1 February, 2019
- Final decision notification: 1 April, 2019