This project is partly funded by [PSU Center for Innovation in Online Learning](https://www.psu.edu/news/academics/story/center-online-innovation-learning-announces-spring-2017-grant-recipients/). Online learning has become increasingly important in digital era. However, there are a lot of concerns and questions in online learning processes, such as difficulties in monitoring students’ learning processes, the high dropout rates, and providing personalized and timely interventions for students. We have been working on building effective, interpretable, and transferrable early prediction models for online learning, and we also connected learning theories with computational methods to model online learning processes to understand students’ behavior and progress in a much granular scale to advance the basic understanding of students’ online learning processes.

Histogram

Description automatically generated

Identified three different learning patterns

Chart, line chart, histogram

Description automatically generated

Students learning patterns during the whole course

Graphical user interface, text, application

Description automatically generated

Explanations about the predictions about students’ learning

Diagram

Description automatically generated

**Relevant publications**

Xing, W., Du, D., Bakhshi, A., Chiu, K. C., & Du, H. (2021). Designing a Transferable Predictive Model for Online Learning Using a Bayesian Updating Approach. *IEEE Transactions on Learning Technologies*, *14*(4), 474-485.

Pei, B., & Xing, W. (2021). An Interpretable Pipeline for Identifying At-Risk Students. *Journal of Educational Computing Research*, 07356331211038168.

Check out the papers published in [Computers & Education](file:///C:\Users\wanlixing\Dropbox%20(UFL)\A%20NEXT%20IDEA\1%20UF%20Research%20Group\xing_website\Sample\www\pub\CE_PLS_Xing.pdf)and [Computer Supported Collaborative Learning (CSCL)](file:///C:\Users\wanlixing\Dropbox%20(UFL)\A%20NEXT%20IDEA\1%20UF%20Research%20Group\xing_website\Sample\www\pub\CSCL_2015_xing.pdf).