Suggested Capstone Projects

Semester 2 – 2019

# Project 4: Learning Analytics Visualisation (LAV)

You are required to conduct an investigation on a data set of student interactions with a learning management system and write a report on your findings. The data is at <https://www.nature.com/articles/sdata2017171>. Here is a description of the data from the website:

Learning Analytics focuses on the collection and analysis of learners’ data to improve their learning experience by providing informed guidance and to optimise learning materials. To support the research in this area we have developed a dataset, containing data from courses presented at the Open University (OU). What makes the dataset unique is the fact that it contains demographic data together with aggregated clickstream data of students’ interactions in the Virtual Learning Environment (VLE). This enables the analysis of student behaviour, represented by their actions. The dataset contains the information about 22 courses, 32,593 students, their assessment results, and logs of their interactions with the VLE represented by daily summaries of student clicks (10,655,280 entries). The dataset is freely available at <https://analyse.kmi.open.ac.uk/open_dataset> under a CC-BY 4.0 license.

You need to think up interesting questions to ask about the data and work out a method for answering them. For example you might ask “Is it possible to predict a student’s grade based on their interactions with the learning management system”. To answer the question you will need to extract relevant data from the dataset and prepare it for a suitable predictive algorithm.

The report should explain the methodology and software tools that you used and any interesting things that you found. It should include suitable visualisations of the data. Any scripts or programs developed should be included in an appendix.