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Dataset

Open Access

Student oriented subset of the Open University Learning Analytics dataset

 (<https://orcid.org/0000-0003-0713-2260>) Gabriella Casalino;  (<https://orcid.org/0000-0002-6489-8628>) Giovanna Castellano;  (<https://orcid.org/0000-0002-0883-2691>) Gennaro Vessio

The Open University (OU) dataset is an open database containing student demographic and click-stream interaction with the virtual learning platform. The available data are structured in different CSV files. You can find more information about the original dataset at the following link: https://analyse.kmi.open.ac.uk/open_dataset (https://analyse.kmi.open.ac.uk/open_dataset).

We extracted a subset of the original dataset that focuses on student information. 25,819 records were collected referring to a specific student, course and semester. Each record is described by the following 20 attributes: *code_module*, *code_presentation*, *gender*, *highest_education*, *imd_band*, *age_band*, *num_of_prev_attempts*, *studies_credits*, *disability*, *resource*, *homepage*, *forum*, *glossary*, *outcontent*, *subpage*, *url*, *outcollaborate*, *quiz*, *AvgScore*, *count*.

Two target classes were considered, namely Fail and Pass, combining the original four classes (Fail and Withdrawn and Pass and Distinction, respectively). The *final_result* attribute contains the target values.

All features have been converted to numbers for automatic processing.

Below is the mapping used to convert categorical values to numeric:

- code_module: 'AAA'=0, 'BBB'=1, 'CCC'=2, 'DDD'=3, 'EEE'=4, 'FFF'=5, 'GGG'=6
- code_presentation: '2013B'=0, '2013J'=1, '2014B'=2, '2014J'=3
- gender: 'F'=0, 'M'=1
- highest_education: 'No_Formal_qualis'=0, 'Post_Graduate_Qualification'=1, 'HE_Qualification'=2, 'Lower_Than_A_Level'=3, 'A_level_or_Equivalent'=4
- IMBD_band: 'unknown'=0, 'between_0_and_10_percent'=1, 'between_10_and_20_percent'=2, 'between_20_and_30_percent'=3, 'between_30_and_40_percent'=4, 'between_40_and_50_percent'=5, 'between_50_and_60_percent'=6, 'between_60_and_70_percent'=7, 'between_70_and_80_percent'=8, 'between_80_and_90_percent'=9, 'between_90_and_100_percent'=10
- age_band: 'between_0_and_35'=0, 'between_35_and_55'=1, 'higher_than_55'=2
- disability: 'N'=0, 'Y'=1
- student's outcome: 'Fail'=0, 'Pass'=1

For more detailed information, please refer to:

Casalino G., Castellano G., Vessio G. Exploiting Time in Adaptive Learning from Educational Data. In: Agrati L. et al. (edited by) Online Higher Education Learning Methodologies and Technologies. HELMeTO 2020. Communications in Computer and Information Science. Springer, Cham. (To appear)

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code_module	code_presentation	gender	highest_education	imd_band	age_band	num_of_prev_attempts	studied
5.0	1.0	0.0	4.0	1.0	1.0	0	60
1.0	1.0	0.0	3.0	3.0	0.0	1	120
3.0	3.0	1.0	3.0	8.0	0.0	1	60
5.0	2.0	1.0	2.0	9.0	2.0	1	120
2.0	3.0	1.0	2.0	9.0	0.0	1	60
5.0	1.0	1.0	2.0	9.0	0.0	0	90
1.0	0.0	0.0	3.0	10.0	1.0	0	60
0.0	1.0	1.0	4.0	3.0	0.0	0	60
0.0	3.0	0.0	3.0	7.0	1.0	0	60
5.0	1.0	1.0	4.0	5.0	1.0	1	90

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