

## An Innovative Video Performance Analysis Tool for Students Retention Rates on MOOCs (Poster)

**Tomer Cohen**

Holon Institute of Technology  
[ctmr20@gmail.com](mailto:ctmr20@gmail.com)

**Amit Tsubery**

Holon Institute of Technology  
[t3ibi123@gmail.com](mailto:t3ibi123@gmail.com)

**Yoni Saida**

Holon Institute of Technology  
[yonisaida@gmail.com](mailto:yonisaida@gmail.com)

**Elad Segev**

Holon Institute of Technology  
[elad1segev@gamil.com](mailto:elad1segev@gamil.com)

## תוכנה חדשה לאנליזה של זמני צפייה בסרטונים של קורסי MOOC (פוסטר)

**עמית צוברי**

מכון טכנולוגי חולון HIT  
[t3ibi123@gmail.com](mailto:t3ibi123@gmail.com)

**תומר כהן**

מכון טכנולוגי חולון HIT  
[ctmr20@gmail.com](mailto:ctmr20@gmail.com)

**אלעד שגב**

מכון טכנולוגי חולון HIT  
[elad1segev@gamil.com](mailto:elad1segev@gamil.com)

**יוני סעדיה**

מכון טכנולוגי חולון HIT  
[yonisaida@gmail.com](mailto:yonisaida@gmail.com)

### Abstract

**Background:** Campus is an Israeli MOOCs (Massive Open Online Courses) open digital platform, enabling learners a free learning experience of academic courses. This Platform is a government initiative which aims to harness the opportunity provided by the digital revolution to allow accelerated economic prosperity and social equality. One of the main challenges in MOOC courses is that the completion rate is lower than 10% (Khalil 2014)

**Motivation:** In order to reduce learner dropout rate, and improve future videos in MOOC courses we developed a user-friendly video analysis tool. This tool enables course developers and instructors to analyze video retention, discover viewing patterns and video outliers.

**Methods:** Raw data containing information regarding participants activities and course structure in three courses delivered on Campus were analyzed. All three courses were from the humanities field. A python-base code was written and tested for the analysis of the raw data. The code output is a simple excel file presenting for each video the number and percentage of views every 5 seconds of the video.

**Results:** Significant difference was found in the video retention rate in the three courses. The retention rates were found to be:  $80\% \pm 4\%$ ,  $67\% \pm 14\%$ , and

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38%  $\pm$  20%. Three types of retention rate were recognized: (i) Linear curve presenting videos with constant abandon rate. (ii) Sigmoid curve presenting large abandon rate in the beginning and end of the video, with low abandon rate in the middle of the video. (iii) Exponential curve presenting videos with low viewer engagement and large abandon rate. Moreover, outliers' curves were found to indicate technical issues such as black screen, during the video.

**Conclusions:** This new tool enables course developers and lecturers to analyze video retention, discover viewing patterns and video outliers. Such analysis can and should be used for increasing learner engagement and improving future MOOCs videos.

**Keywords:** Massive Open Online Course, Retention Rate, Completion Rate, Video Data Mining.

## References

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