*Written by Carla and Philippine*

YouTube was created in 2005 and over the years turned into one of the most widely used user-generated content platforms and the second most visited website around the world (Alexa, 2020).

YouTube evolved a lot, through changes in its algorithm and the audience it reached. Nowadays, YouTube content creators are diverse: both corporates, artists, consumers, professionals, amateurs and more would upload more than "500 hours of content every minute » to the platform (Youtube, 2020) to express themselves. On top of that, the share of internet users watching videos weekly is significant (Tafesse, 2020). The interactions - via likes and comments – between the users and the content producers are also important. It drastically changed the way news, commercials and entertainment are made, shared and consumed. (Feroz Khan et al., 2014) Thus, YouTube has a strong influence on our society and it becomes necessary to understand how the platform works.

A video creator (be them a vlogger or a firm) wishes to get increased chances of being watched among the billions of other videos already existent. What drives views? Since Google does not disclose much details on the algorithm, a vast body of research revolving around popularity on YouTube has been conducted both by the academia and the industry and YouTube users themselves (through videos or blog posts for example). They all aim to help video creators to increase their chances of being watched and at best, to feature on YouTube’s Trending page or to become viral. That would help video producers to promote themselves, spread their messages to a larger audience, fulfill their marketing purposes, etc. (Chatzopoulou et al., 2010).

These studies analyzed the phenomena through all aspects; quantitative, qualitative, using users’ metadata and so on. It resulted in many insights into the algorithm to help us get a better understanding of it.

What others have done before us? We have found two studies that used the same datasets as us. The first one created the CMU Viral Videos Dataset which is the “largest public viral video dataset (…) where videos were manually selected by experts including editors from Youtube and the Time Magazine”. The team analyzed them and their characteristics to understand how to design a viral video. They made six different and interesting observations, for instance, stating that viral videos have shorter titles and shorter duration in time or that the popularity of the uploader is crucial to viral video views.

The second research used the Kaggle dataset to study the top 200 Youtube videos trending from November 2017 to March 2018 in the US and the UK. For instance, they looked at views vs trending dates, tags counts, channel subscribers, … making visualizations, and statistical observations out of that information. It is interesting to note that thousands of notebooks of codes revolving around our topic have been made using the Kaggle dataset which was relevant to look at when doing our own research.

Moreover, models such as the HIP (Hawkes Intensity Process) have been created to “quantify the relationship between the popularity of an online item and the external promotion it receives”. The research we looked at used HIPs to forecast the popularity of Youtube videos and to identify trends based on the 5-months feed of the most-tweeted videos.

Our research debunks the Youtube algorithm looking at trending and viral videos. Our study can be qualified as original, firstly, because not any other research we have seen combine both viral and trending videos. Secondly, most studies revolving around our subject usually use Youtube APIs, however, we chose not to. Lastly, since the Youtube algorithm changes frequently there is a need for an up-to-date research.

An API is a set of “programming code that enables data transmission between one software product and another”, basically it is data exchange.

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<https://arxiv.org/abs/1807.11227> (study on youtube comments + other metadata)

**https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5466701 A First Step Towards Understanding Popularity in YouTube**

[According to Variety magazine](http://variety.com/2017/di), “To determine the year’s top-trending videos, YouTube uses a combination of factors including measuring users interactions (number of views, shares, comments and likes). Note that they’re not the most-viewed videos overall for the calendar year”.

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