



ReTV

Re-Inventing TV for
the Interactive Age

Optimising the Future Publication of Media Content through AI

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AI4TV 2020 workshop (online)

Business value of digital video marketing

Video is everywhere! → How to get your audiences' attention?

- Consumers watch a full length video asset after being exposed to a summary (advertisement or trailer)
- Attention spans towards video on digital channels are dropping
- Many channels have focused their content distribution on short-form video (stories)

Digital marketing of video content requires optimal selection and summarization

Use of video assets in digital marketing

Which of my media assets should I promote on social media in the coming week?




BEELD EN GELUID



ReTV

Use of video assets in digital marketing



HOMEABOUTMYEUSCREEN

Q *

FILTERS

LANGUAGE▼

DECADE▼


TOPIC▼

AllVideosImagesAudioDocumentsSeries / Collections

63970 RESULTS

SORT BY YEAR▼

↓AZ



European Treaties celebrate their first year

Original Title: Hanno un anno i Trattati Europei

Provider: Luce / Italy

Year: 1905

Language: Italian



Use of video assets in digital marketing

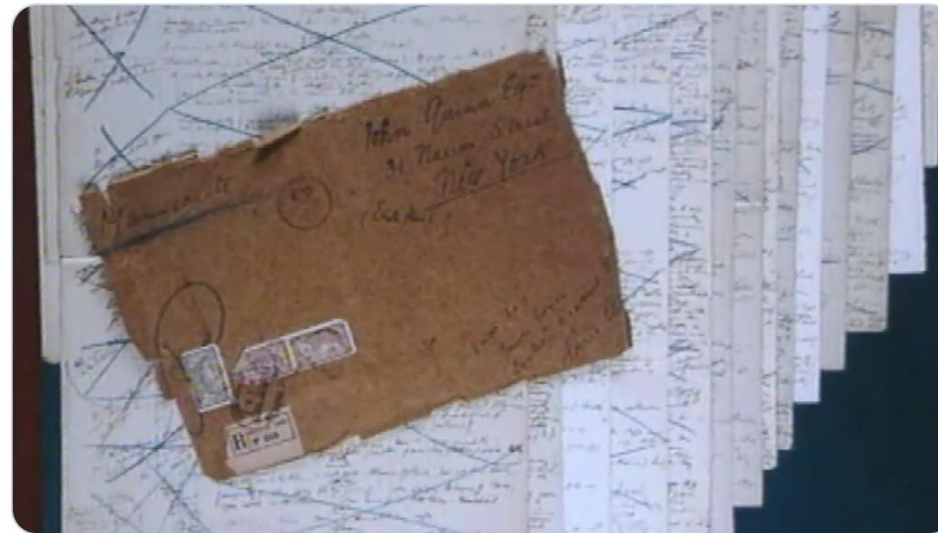
Publish & track
success



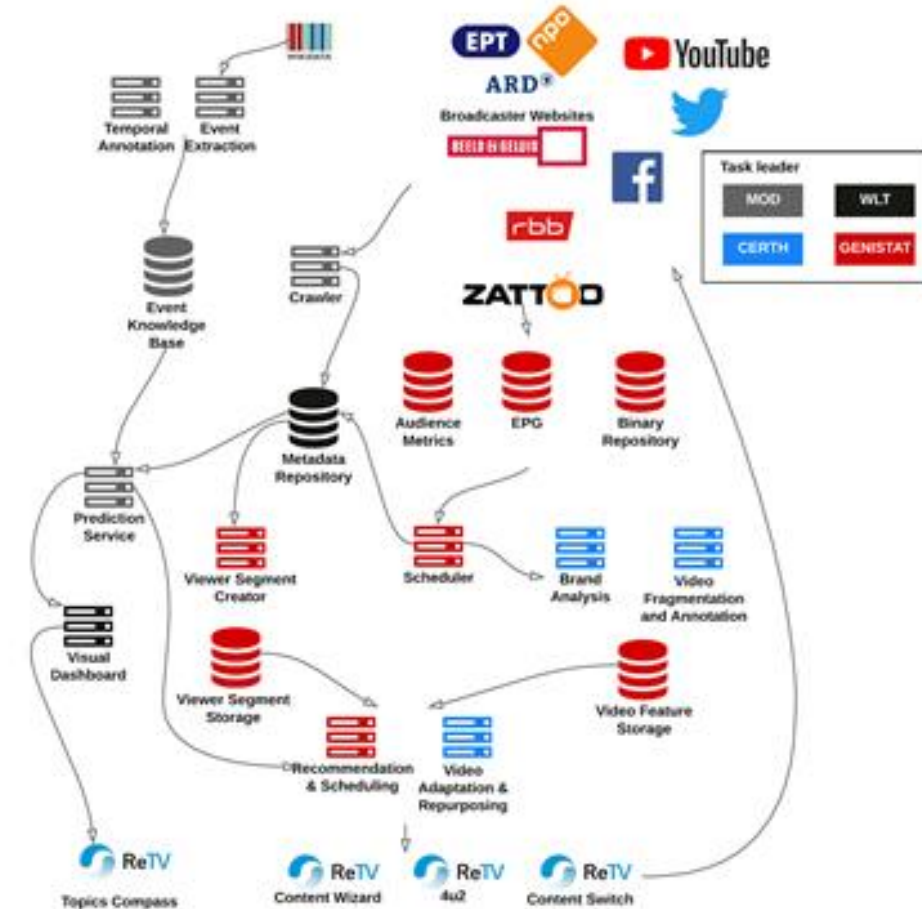
EUScreen @EUScreen · Jun 16

Happy #Bloomsday2020 🇮🇪

Today we commemorate the life and work of Irish writer #JamesJoyce. In his honour take a look at this video of a rare manuscript of the author that includes a complete working draft of the Circe chapter of Ulysses 📖 ➡️ bit.ly/30SxO9z

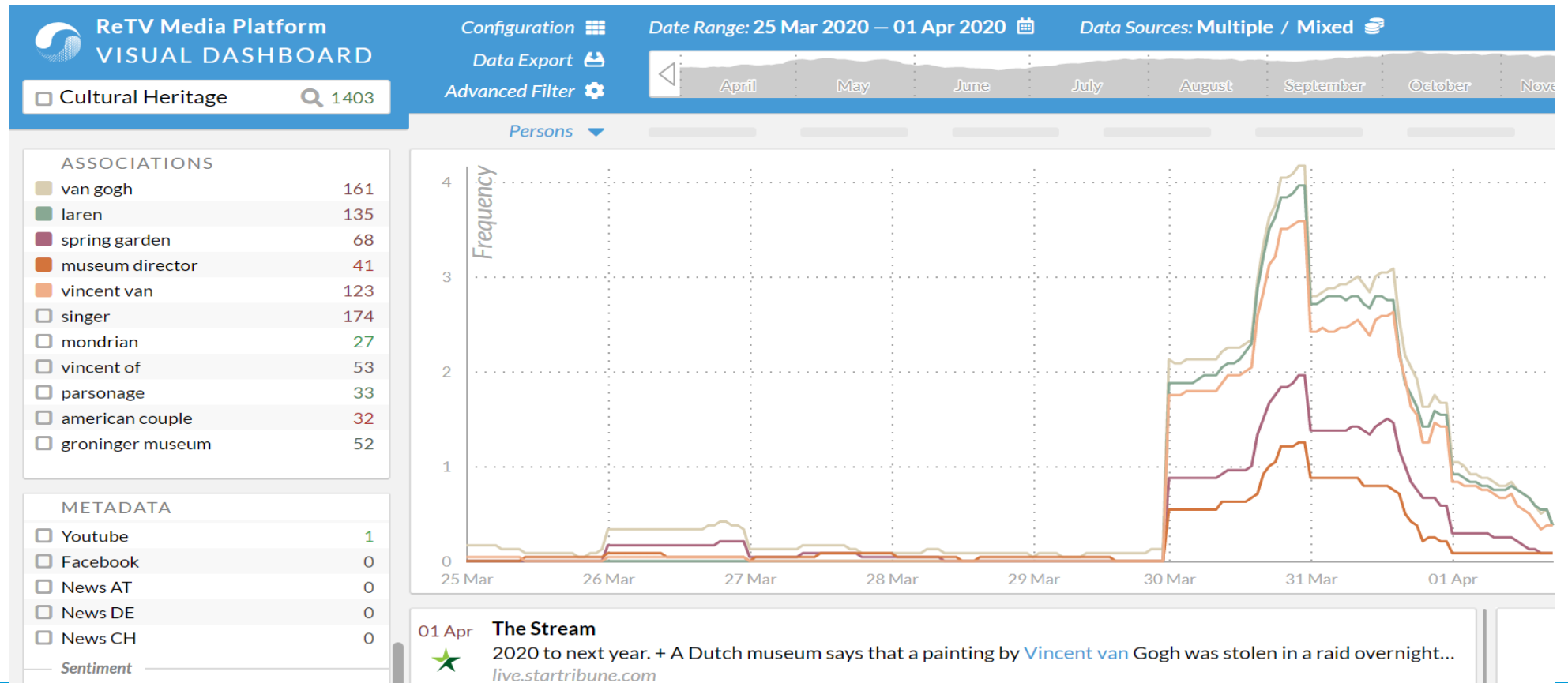


ReTV develops a Trans-Vector Platform (TVP) to analyse content across all channels and “publish to all media vectors with the effort of one”



Topics Compass: explore trends in topics of online discourse

Identify topics of interest to the future audience



Prediction: what is the optimal publication time/channel for content according to its topic?

We chose topics in sports as there can be seen a past trend in online discourse related to sports events.

We used topic mentions in global English & German news sources for the time series training data.

The training/testing data set covered 28 months (daily values = **841 data points**) and we predict for the **next 30 days**.

The first attempt looked at different keywords (cycling, formula one, wimbledon) and found that each keyword will differ in its behaviour and therefore predictive power.

We found in testing with ARIMA that the best functioning model was **SARIMAX (7,1,2)** with seasonal order (0,0,0,365), below the **MAE and RMSE** for the prediction:

CYCLING	15.3	18.5
FORMULA ONE	22.2	37.0
WIMBLEDON	44.1	79.1

Prediction: what is the optimal publication time/channel for content according to its topic?

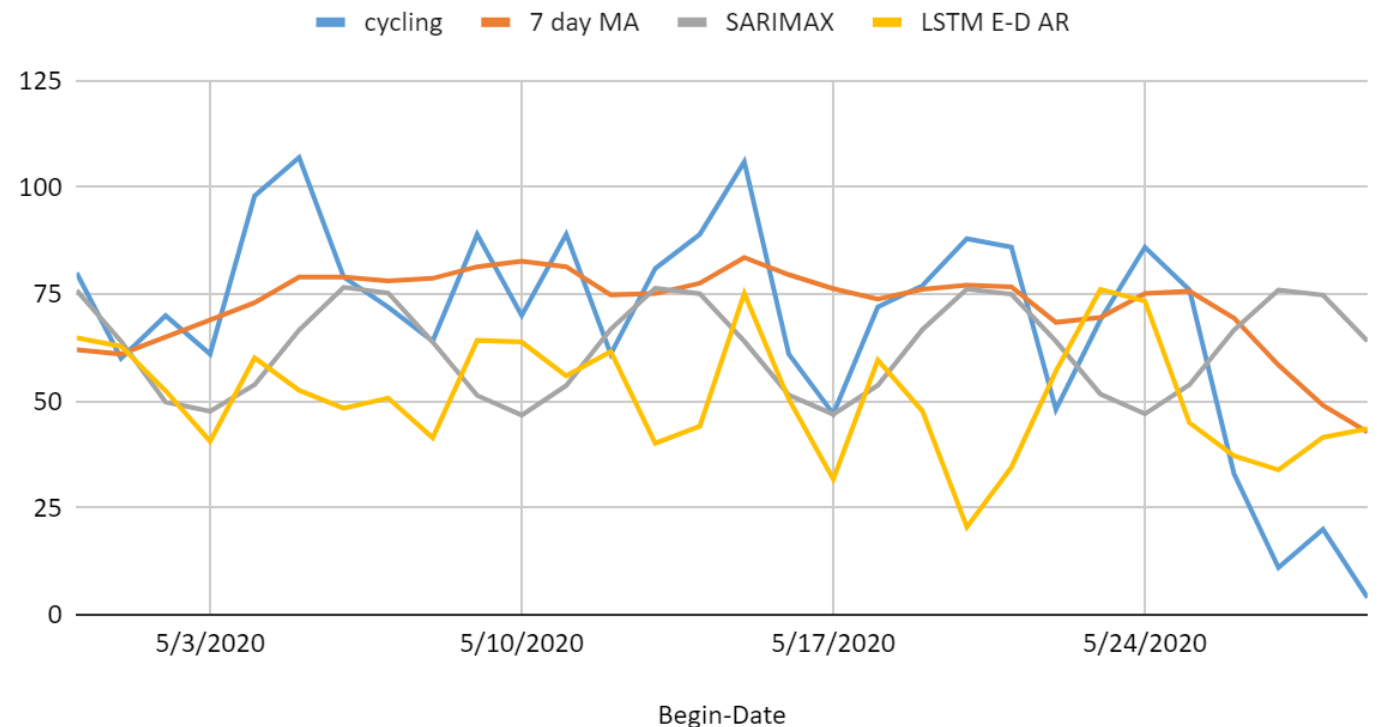
We compared SARIMAX and LSTMs for predictive accuracy measured by MAE and RMSE.

LSTM Encoder Decoder with Seq2seq and Luong attention has performed best for multi-step forecasting.

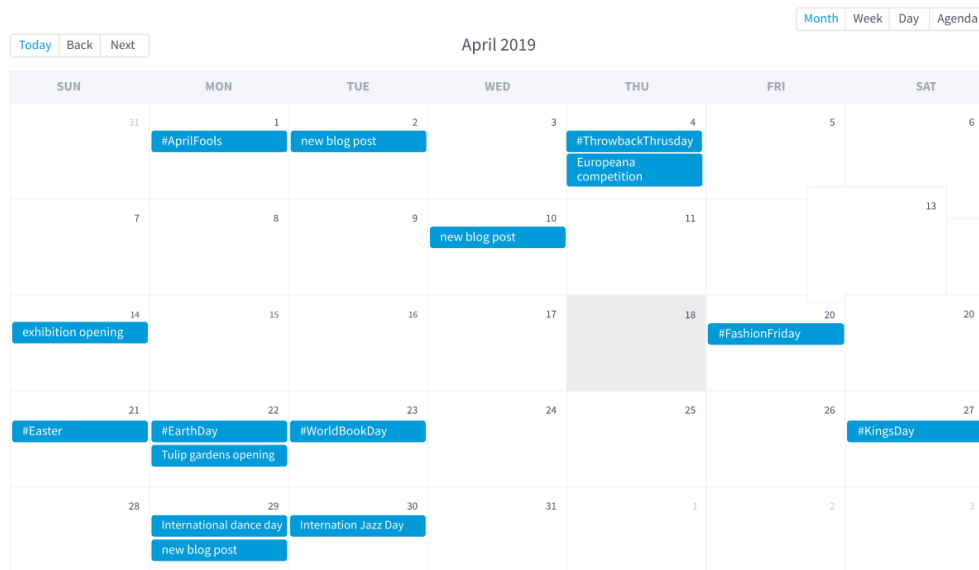
However, SARIMAX outperformed LSTMs for one step forecasting with autoregression.

	MAE	RMSE
SARIMAX	15.3	18.5
LSTM	13.7	15

cycling, 7 day MA, SARIMAX and LSTM E-D AR



Prediction: what is the best topic to choose on a future date?



Our events and anniversaries API highlights important events and anniversaries on a specific date.

15 Apr CSD Berlin soll am 25. Juli online stattfinden
Berliner Christopher Street Day soll am 25. Juli in einer Onlinevariante stattfinden - das teilten das CSD-Tea...
tagesspiegel.de

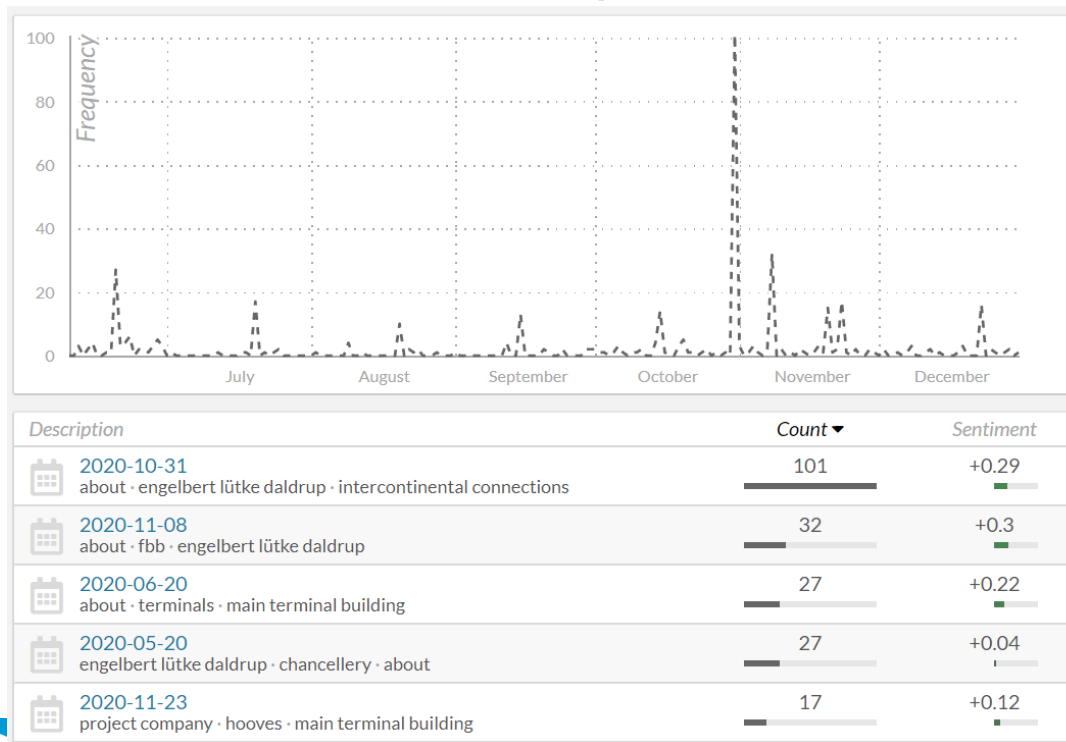
05 Feb Söhne Mannheims kommen ans Blue Balls
Jahr steht nun der 25. Geburtstag an, welchen die Söhne am 25. Juli 2020 erneut in Luzern feiern möchten. B...
20min.ch

17 Feb Passenger mit Album-Premiere am Blue Balls
Album und präsentiert es erstmals in der Schweiz. Am Samstag, 25. Juli 2020 ist der englische Singer-Songw...
radiopilatus.ch

The Topics Compass can identify time references in Webpages and social media posts and aggregate those documents that refer to a specific date, displaying the top keywords extracted from the document cluster.

Prediction: what is the best date to choose for a certain topic?

Left: RBB, all media, Jun 10-Dec 31 2020. Bookmark “Airports”.



Right: NISV, all media, Jun 10-Dec 31 2020. Bookmark “Events”.



10 Mar COACHELLA VALLEY · INLAND EMPIRE · POLO

T Coachella Organizers Plan to Delay Festival Until October Over Coronavirus Concerns
<https://time.com/5800013/coachella-delayed-october-coronavirus/>

... Under the plan, [Coachella](#) — slated for April 10-12 and April 17-19 — would be rescheduled for October, according to the person, who asked not to be identified because the change hasn't been made public yet. Goldenvoice, which organizes the [festival](#), didn't immediately respond to requests for comment. The move would attempt to preserve an event that's become the world's highest-grossing [festival](#) in recent years, generating more than \$100 million annually, according to live-entertainment data provider Pollstar. ...

Prediction: hybrid model (best of all worlds)

Days into the future	Average MAE	Average RMSE
2	13.5	14.7
7	14.3	15.6
10	16.4	17.6
20	23.5	24.8
30	25.1	26.7

It appears multi-step time series forecasting can help predict future topical trends when the topic has enough past data with a discernible seasonality.

Topics that emerge in recent time or lack past seasonal trends are more difficult: using one step time series forecasting with autoregression, the accuracy drops as we look further into the future (10 fold validation results in table, left, for 'cycling' using a LSTM Encoder-Decoder model with TimeSeriesGenerator)

Future work is to see how the other prediction features (event, future temporal references) can help improve the accuracy of prediction in longer time periods (>10 days!)



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Sign up for the ReTV Newsletter and get an update every few months from us!

The ReTV Stakeholder Forum is your opportunity to engage with us, be first to get updates and have the opportunity to test our tools and applications!



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