

A Topic Model of the Digital Government Reference Library (DGRL) v. 17.5

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Abstract

Digital Government is a growing and evolving field of research, as with other scientific fields, the fast increase in research output have challenged researchers to explore and use novel computational ways and methods to perform evidence synthesis on the extant literature and be able to map a scientific discipline and even aim to find the proverbial “needle in the haystack” by means of text mining. This chapter aims to explore the abstracts of conference papers and journal articles available in the Digital Government Reference Library version 17.5, a curated repository of publications contributing to the field of Digital Government Research (DGR) by using a text as data approach and a topic modeling technique known as Latent Dirichlet Allocation (LDA). To our best knowledge, this is the first attempt to use unsupervised machine learning techniques to this data set.

Introduction

Trends in global scientific output demonstrate a rapid and sustained increase in the production of peer reviewed journal articles in most domains of knowledge. This continuous growth in research output is challenging scholars into exploring and pursuing novel methodological approaches and techniques to examine the massive amounts of scientific publications in circulation and the ever-growing data sets being created due to the digitalization of multiple aspects in modern-day life. Digitalization as a multifaceted process is also redefining how research is designed and conducted. Digital government scholarship is an emerging multidisciplinary field that follows this pattern as well.

Scholars exploring labor-saving technologies have applied similar techniques expanding the methodological repertoire available and inspiring a similar pursuit for the exploration of the impact of technological change in a public sector context (Arduini and Zanfei 2014; Montobbio et al. 2022).

```
summary(DGRLv17_5_zotero)
```

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##	Mode :character	Mode :character	Median :2013	Mode :character
##			Mean :2013	
##			3rd Qu.:2018	
##			Max. :2022	
##			NA's :4165	
##	Title	Publication Title	ISBN	ISSN
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```

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## Median :2022-02-17 12:55:04   Median :2022-02-17 12:55:04
## Mean   :2022-02-17 12:55:16   Mean   :2022-02-17 12:55:16
## 3rd Qu.:2022-02-17 12:59:11   3rd Qu.:2022-02-17 12:59:11
## Max.   :2022-02-17 13:03:57   Max.   :2022-02-17 13:03:57
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##      Access Date          Pages          Num Pages
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## 1st Qu.:2015-11-05 00:00:00   Class :character   Class :character
## Median :2017-11-07 00:00:00   Mode  :character   Mode  :character
## Mean   :2016-08-26 08:09:30
## 3rd Qu.:2019-05-07 18:41:30
## Max.   :2020-12-29 18:46:28
## NA's   :13705
##      Issue              Volume          Number Of Volumes   Journal Abbreviation
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## Mode  :character   Mode  :character   Median :3.000      Mode  :character
##                                     Mean   :2.732
##                                     3rd Qu.:3.000
##                                     Max.   :3.000
##                                     NA's   :16337
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## Mode  :character   Mode  :character   Mode  :character
##
##
##
##      Series Title      Publisher          Place          Language
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## NA's:16531      Class :character   Class :character   Class :character
##                                     Mode  :character   Mode  :character
##
##
##
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```

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##                                     Mode  :character      Mode  :character
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##                                     Mode  :character
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##
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## Mode  :character      Mode  :character
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##
## Attorney Agent Book Author      Cast Member      Commenter      Composer
## Mode:logical      Mode:logical      Mode:logical      Mode:logical      Mode:logical
## NA's:16531        NA's:16531        NA's:16531        NA's:16531        NA's:16531
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##
## Cosponsor      Counsel      Interviewer      Producer      Recipient
## Mode:logical      Mode:logical      Mode:logical      Mode:logical      Mode:logical
## NA's:16531        NA's:16531        NA's:16531        NA's:16531        NA's:16531
##
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##
## Reviewed Author Scriptwriter      Words By          Guest          Number
## Mode:logical      Mode:logical      Mode:logical      Mode:logical      Mode:logical
## NA's:16531        NA's:16531        NA's:16531        NA's:16531        NA's:16531
##
##
##

```

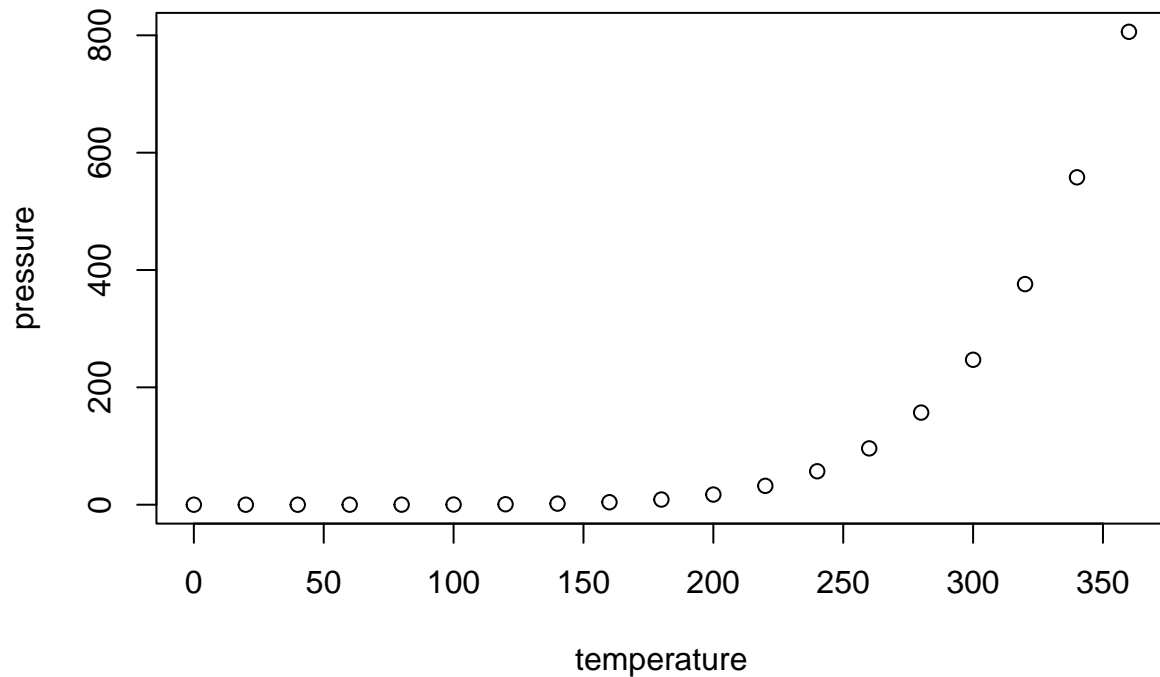
```

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## Mode :character
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##
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## Filing Date       Application Number Assignee         Issuing Authority
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## NA's:16531        NA's:16531        NA's:16531        NA's:16531
##
##
##
##
## Country           Meeting Name      Conference Name    Court             References
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##
##
## Reporter          Legal Status      Priority Numbers   Programming Language
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##
##
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## NA's:16531        NA's:16531        NA's:16531        NA's:16531        NA's:16531
##
##
##
##
## Session           Committee         History           Legislative Body
## Mode:logical      Mode:logical      Mode:logical      Mode:logical
## NA's:16531        NA's:16531        NA's:16531        NA's:16531
##
##
##
##
##

```

Data

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

References

- Arduini, Davide, and Antonello Zanfei. 2014. "An Overview of Scholarly Research on Public e-Services? A Meta-Analysis of the Literature." *Telecommunications Policy* 38 (5-6): 476–95. <https://doi.org/10.1016/j.telpol.2013.10.007>.
- Montobbio, Fabio, Jacopo Staccioli, Maria Enrica Virgillito, and Marco Vivarelli. 2022. "Robots and the Origin of Their Labour-Saving Impact." *Technological Forecasting and Social Change* 174 (January): 121122. <https://doi.org/10.1016/J.TECHFORE.2021.121122>.