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Writing TV series scripts to measure learning from extensive audio-visual input

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Audiovisual input for language learning

– Beneficial for vocabulary, grammatical constructions, speech segmentation, listening comprehension
(see Montero Perez, 2022)

– On-screen text (L1 subtitles, L2 captions, TE captions, no captions) supports learning of different features

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Measurement issue

– Majority of audiovisual input and captioning studies used written test (Jelani & Boers, 2018)

– Those tests are rarely productive

– Need to have more ecologically valid productive measures/activities (e.g. Kusyk & Sockett, 2012)

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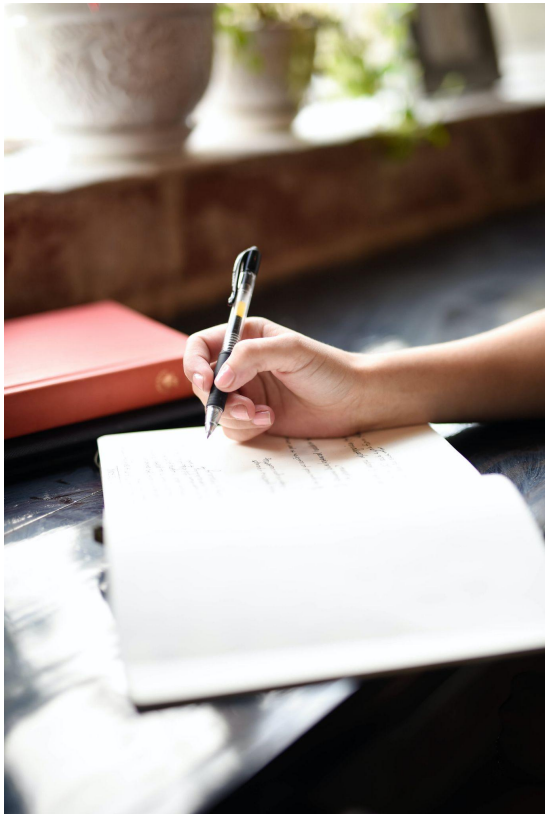
Written production: Fan fiction

– Fan fiction for language learning (*FanTales*, e.g. Cornillie et al., 2021)

– Frequent viewers produced more TV series constructions than infrequent viewers (Sockett, 2014)



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Aim of the study

A follow-up study on Sockett (2014):

–larger participant group
–more controlled environment with various types of exposure
–natural language toolkit analysis

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Research question

To what extent does prolonged viewing of TV series under different viewing conditions affect language uptake (as demonstrated by written output)?

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The study

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Participants

134 Audiovisual Communication undergraduate students

Catalan/Spanish bilinguals

17-32 y.o. (M=19.32)

Captions (n=71), TE captions (n=37), no captions (n=26)

A1–C2 proficiency levels (Mean B2)

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TV series

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Instruments

– Oxford Placement Test (Allan, 2004)

– Script writing (40 min)

Episode scene-writing competition!

The producers of *The Good Place* are looking for new ideas!

How is Tahani going to keep Eleanor in The Good Place? What is her plan? Write a conversation between the main characters describing what they are going to say to each other and what they are going to do to save Eleanor.

Write between 200-220 words. Try to **use as many phrases as you can** from what you **heard/read/learnt** while you were watching ***The Good Place*** show.

Write the first conversation of the next episode using the background story given.

You have 20 minutes to complete the task.

INT. MICHAEL'S OFFICE AT THE GOOD PLACE - ….(TIME?)……

Tahani, Chidi, Jason, and both Eleanors break into Michael's office without knocking and interrupt his conversation with Janet. Tahani impatiently sits on the chair and starts explaining her plan. Everyone is listening to her and discusses her plan when she finishes.

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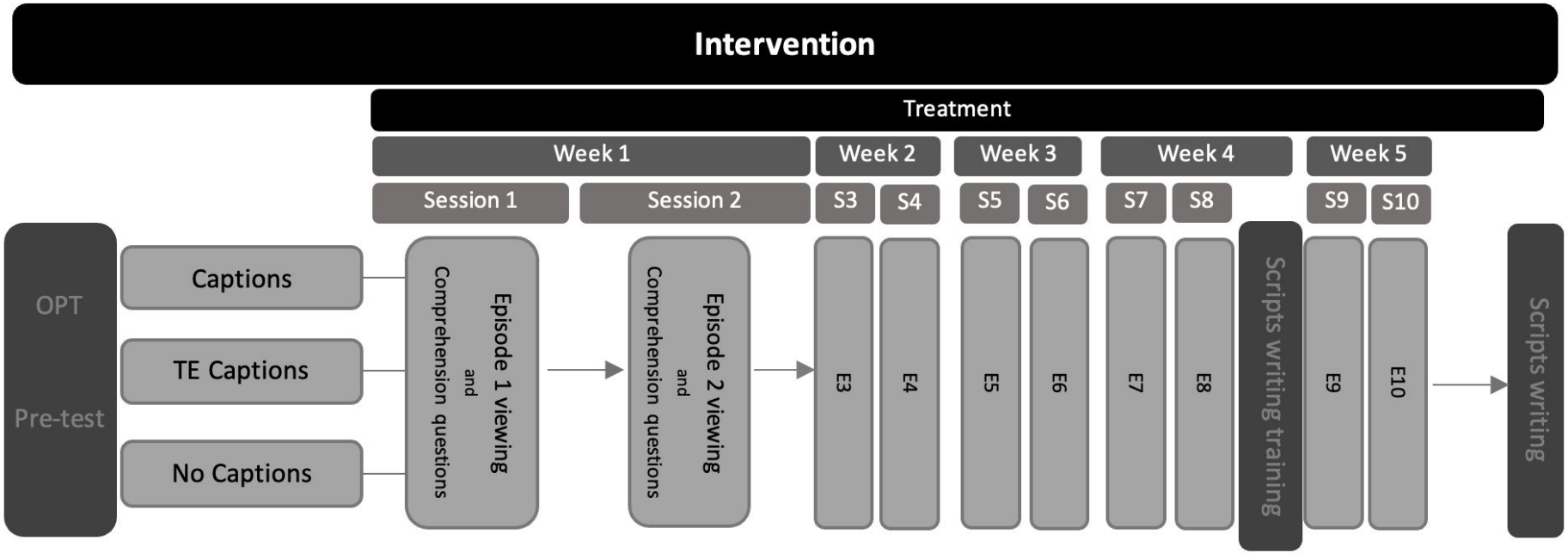
Procedure



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Analysis: Corpora

– *The Good Place* 10 episodes scripts corpus
(30,334 words)

– Students' scripts corpus
(32,090 words)

– Comparison corpora (*Friends* and *The Good Doctor*)
(23,756 and 44,351 words)

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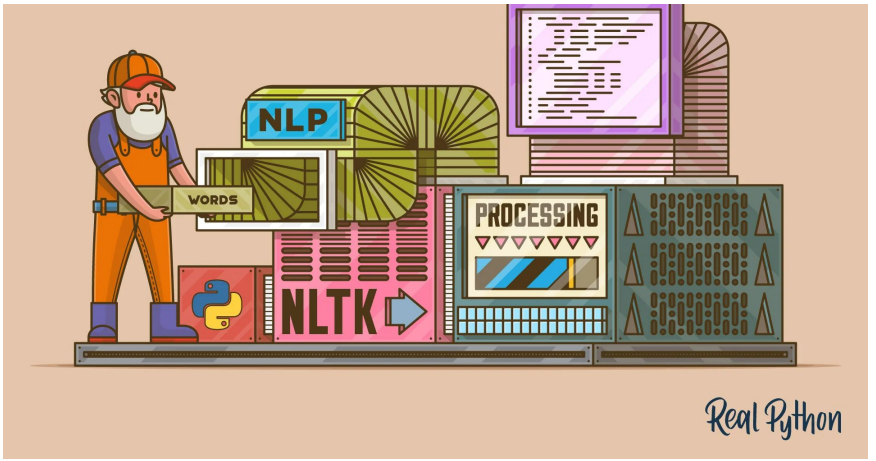
Analysis procedure



1) Natural language toolkit (nltk)
2) The text is tokenized and lemmatised
3) a. Stopwords (e.g. I, me, you, yourself, am, is, are, have, has, between, 127 in total) are filtered

   b. Stopwords are kept
4) The word units are vectorised
5) Cosine similarity is calculated

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General Linear Models

Dependent variable: Cosine similarity scores (with or without stopwords)

Independent variable: Viewing group

Covariate: Proficiency

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The results

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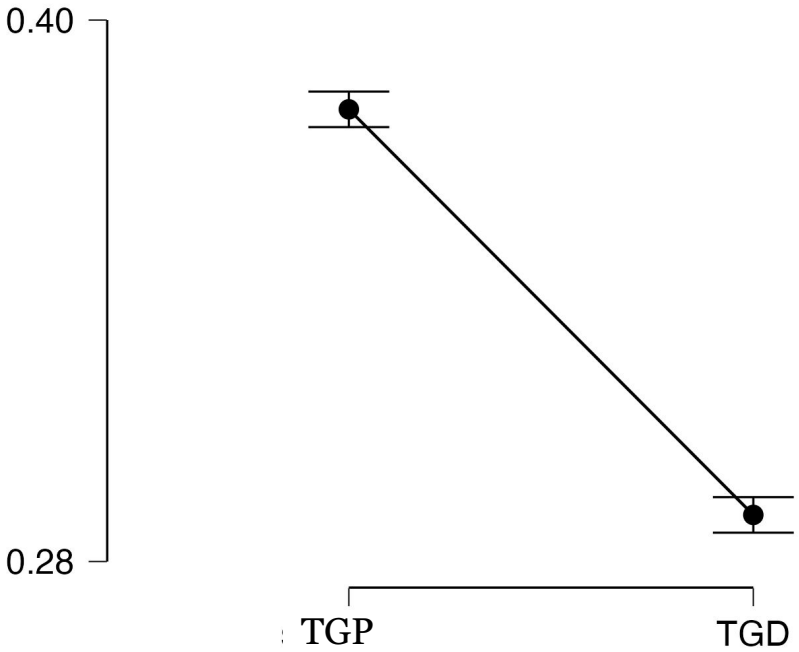
Control comparison: *The Good Doctor*



t (133) = 31.920, $p < .001$, $d = 2.758$

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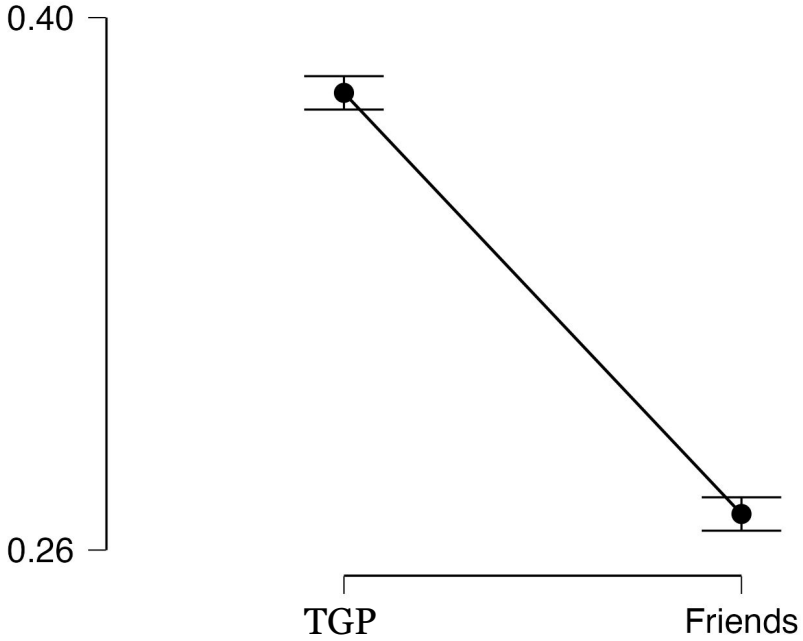
Control comparison: *Friends*



t (133) = 35.282, $p < .001$, $d = 3.048$

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Participants' and TV series' scripts comparison

	Stopwords filtered Mean (SD)
Original TV series scripts	1.00
All participants	0.380 (.043)
Captions	0.391 (.040)
TE captions	0.365 (.043)
No captions	0.372 (.041)

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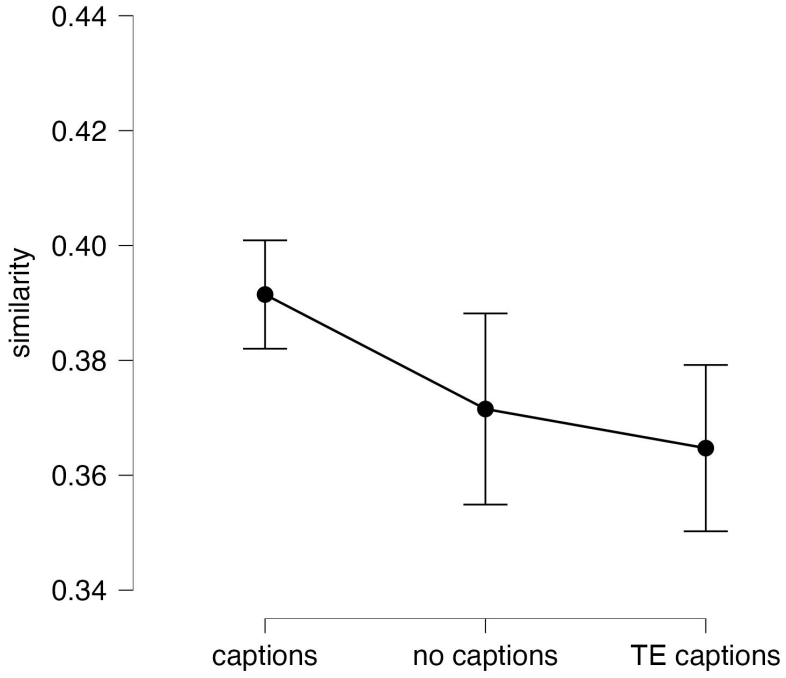
Participants' and TV series' scripts comparison

	Stopwords filtered Mean (SD)	Stopwords not filtered Mean (SD)
Original TV series scripts	1.00	1.00
All participants	0.380 (.043)	0.614 (.073)
Captions	0.391 (.040)	0.621 (.072)
TE captions	0.365 (.043)	0.588 (.077)
No captions	0.372 (.041)	0.632 (.065)

Effect of viewing group (stopwords filtered)



	F	*p*	η^2
Group	4,582	.012	.063
Proficiency	3,264	.073	.022

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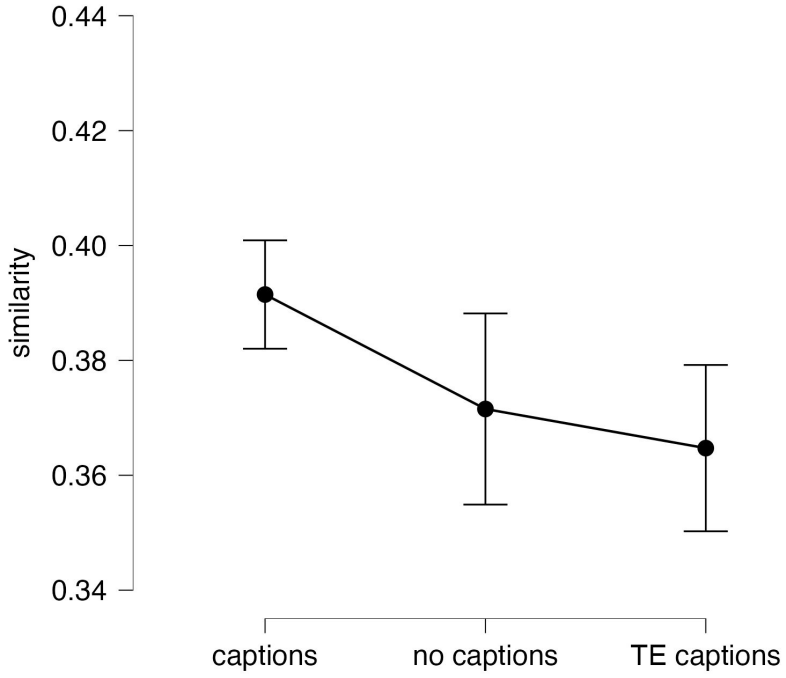
Post hoc comparison (stopwords filtered)



	Mean difference	*t*	*p*
Captions – NC	.018	1.868	.152
Captions – TE	.024	2.854	.014
NC – TE	.006	0.611	.815

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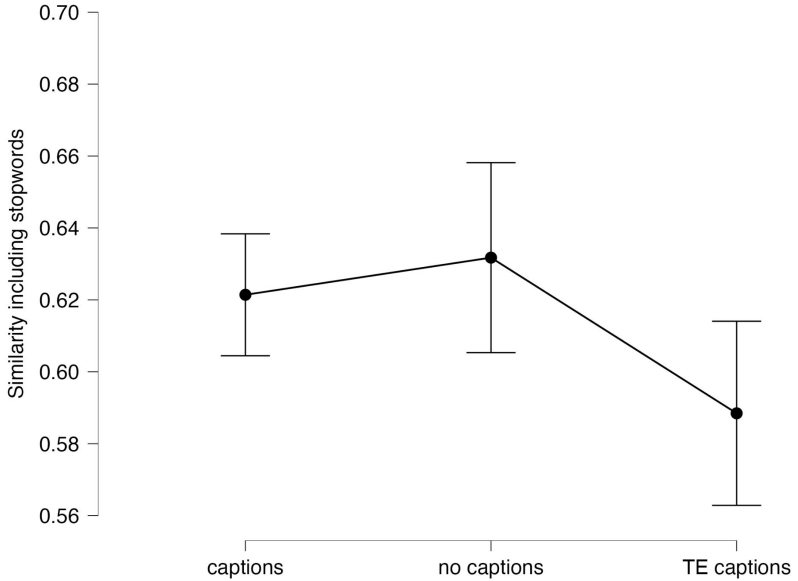
Effect of viewing group (including stopwords)



	F	*p*	η^2
Group	3,183	.045	.046
Proficiency	1,037	.310	.008

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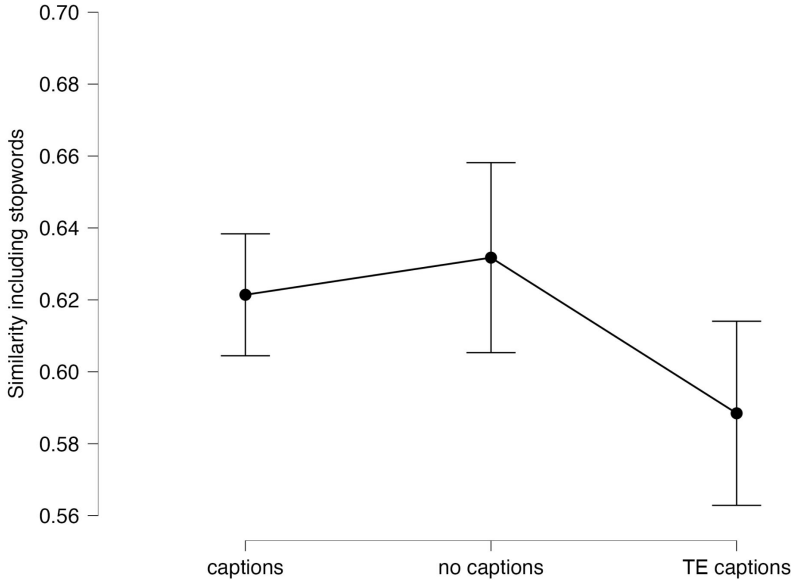
Post hoc comparison (including stopwords)



	Mean difference	*t*	*p*
Captions – NC	-.013	-.759	.729
Captions – TE	.030	2.037	.107
NC – TE	.043	2.327	.056

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Discussion

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TV series scripts as a measurement of uptake

– Students' produced similar scripts to *TGP*

– Scripts' similarity depended on their viewing mode (cf. previous findings with less productive, more controlled tests, e.g. Pattemore & Muñoz, 2022)

→ Promising measure

– Mixed findings on TE captions (cf. Montero Perez, 2022)

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Group difference

- Captions group performed better for content words and showed less variability in scores (levelled the playing field, Pattemore & Muñoz, 2020)

- Once the function words were included, the advantage disappeared

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Group difference

- TE captions always performed worse

→ possible cognitive overload

→ enhanced expressions appeared isolated (scripts→ contextualized)

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Limitations and Future research

- preliminary analysis – more data cleaning required

- decision on filtering the stopwords

→ creation of a stopword list for LL

- more complex NLP vectorisers (e.g. text2vec)

- chunking (e.g. Sockett, 2014)

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Conclusion

- TV series viewing leads to uptake

- Of productive language, not mere receptive language

- Captions are beneficial for this form of learning (for content words and levelling the playing field)

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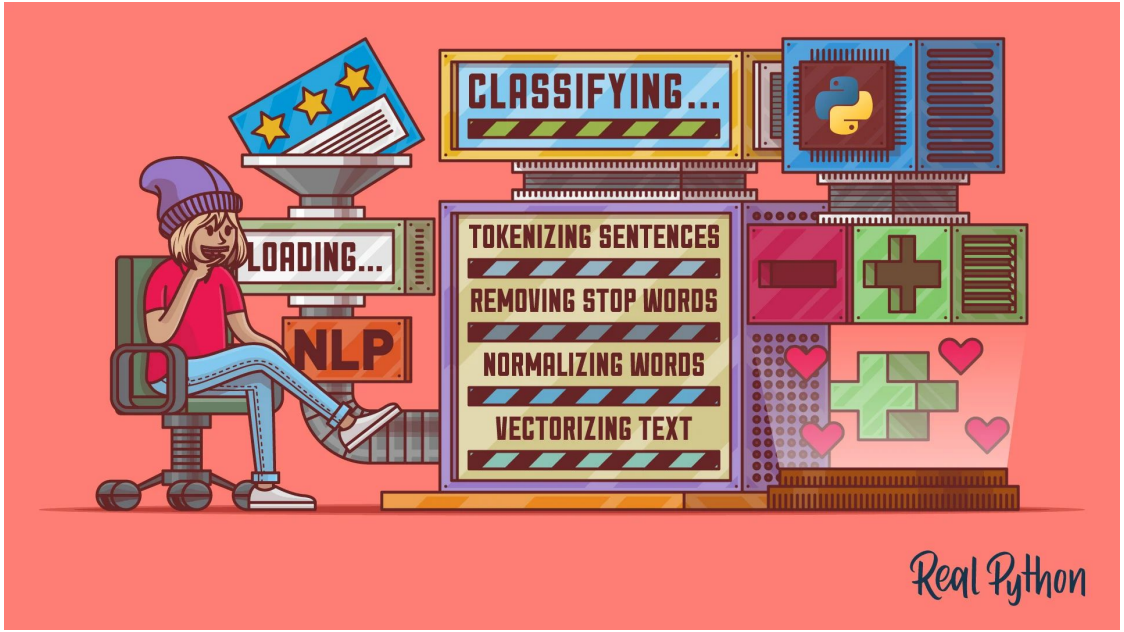

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