TACKLING NATURAL LANGUAGE GENERATION CHALLENGES AT NARRATIVE SCIENCE

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Oct 19, 2017

Narrative Science



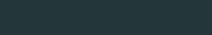
WHAT IS QUILL?

Quill is an Advanced Natural Language Generation (NLG) platform

NLG A form of artificial intelligence (AI) that automatically produces language from structured data.

intent-driven Advanced NLG uses intent, or what you want to know, as its guide from the very beginning.

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VERB CONJUGATION

VERB INFLECTION

- · A single verb can have various word forms:
- (1) CREATE
 - a. create, creates, created, creating
 - b. creator, creation, creative, creatively
- · (1a) is an example of inflectional morphology
 - · expresses grammatical features
 - · (usually) doesn't change basic meaning or part of speech

GRAMMATICAL FEATURES

- Grammatical features are properties that the grammar of any language tracks and manifests
- · Some features that English is sensitive to:

· number: dog, dogs

· tense: create, created

· gender: he, she

· person: we, yall, they

· mass/count: 3 books, *3 bloods

· case: I, me, my, mine

INFLECTIONAL PARADIGMS

- · Word forms can track multiple features at once
- · This can be tracked within an inflectional paradigm

CREATE

Present		
	singular	plural
1	create	create
2	create	create
3	creates	create

	Past	
	singular	plural
1	created	created
2	created	created
3	created	created

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	singular	plural
1	created	created
2	created	created
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- · Only 3rd person singular is different this looks easy!
 - · Just add -s to the 3.sg present form and -d to all past forms!

IRREGULARS

Unfortunately, we all know there are irregular verbs in English

ВΕ

Present		
	singular	plural
1	am	are
2	are	are
3	is	are

Past		
	singular	plural
1	was	were
2	were	were
3	was	were

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	singular	plural
1	am	are
2	are	are
3	is	are

Past		
	singular	plural
1	was	were
2	were	were
3	was	were

· Darn, how do we get am or was from be?

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PRONOUNS



GRAMMATICALITY VS STYLE

Grammaticality: only grammatical and accurate sentences should be **generated**

Sentence selection: the stylistically best sentence from the set of grammatical candidate sentences should be **selected**

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· but what determines a stylistically 'good' sentence?

SUBJECTIVE AXES OF 'GOODNESS'

- · Most native speakers will agree when a sentence is grammatical
- \cdot But style is vague and elusive, varying from person to person

SUBJECTIVE AXES OF 'GOODNESS'

- · Most native speakers will agree when a sentence is grammatical
- · But style is vague and elusive, varying from person to person
- · Which do think is the best sentence?
- (2) Aaron Young generated \$3M in revenue in 2016.
- (3) Aaron Young's revenue was \$3M in 2016.
- (4) Revenue for Aaron Young was \$3M in 2016.
- (5) In 2016, Aaron Young generated \$3M in revenue.
- (6) Aaron Young's 2016 generated revenue was \$3M.





TYPOGRAPHY

The theme provides sensible defaults to \emph{emphasis} text, \alert{accent} parts or show \textbf{bold} results.

becomes

The theme provides sensible defaults to emphasis text, accent parts or show **bold** results.

DARK BACKGROUND





SUMMARY

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