Updated Headline Generation: Creating Updated Summaries for Evolving News Stories

Sheena Panthaplackel(spantha@cs.utexas.edu)¹, Adrian Benton², Mark Dredze³
¹The University of Texas at Austin (Work done as intern at Bloomberg)
²Bloomberg (Now at Google Research)
³Johns Hopkins University, Bloomberg

Task
Updated headline generation as dynamic text summarization:
- Capitalize on what is already known
- Highlight important changes

Man charged with theft of ice cream van in Nottingham

Data
NewsEdits
[Spangher et al., 2021]

Experiments & Results

Human Evaluation (3 annotators, including reference)

|---------------------------------|--------------|-------------------------|-------------------------------|

Evaluating various input context representations with BART

Analysis

The White House is asking Congress for nearly $12 billion more than $14 billion as a down payment on Hurricane Harvey recovery efforts, sending Republican leaders a request late Friday for $5.3 billion in immediate aid...

Predicted Headline: white house to ask for $14.8 billion down payment for harvey relief

AGLEU for Varying Jaccard Similarity

Analyzing BART Attention
- Attending to Old Headline when retaining content
- Attending to Edits in Body when generating new content

Case Study

Input Context Representation

Original
New Body
Old Headline
Old Headline + New Body
Old Headline + Edits in Body
Reference

Prediction
man charged with theft of ice cream van in nottingham
Gavin Fouracres admits stealing ice cream van in nottingham
man remanded over theft of ice cream van in nottingham
man, 22, admits theft of ice cream van in nottingham
man admits theft of ice cream van in nottingham

Analyzing Best Model for Varying Levels of Edits
- Large # of edits: New Body is sufficient
- Medium # of edits: Old Headline + New Body
- Small # of edits: Old Headline + Edits in Body