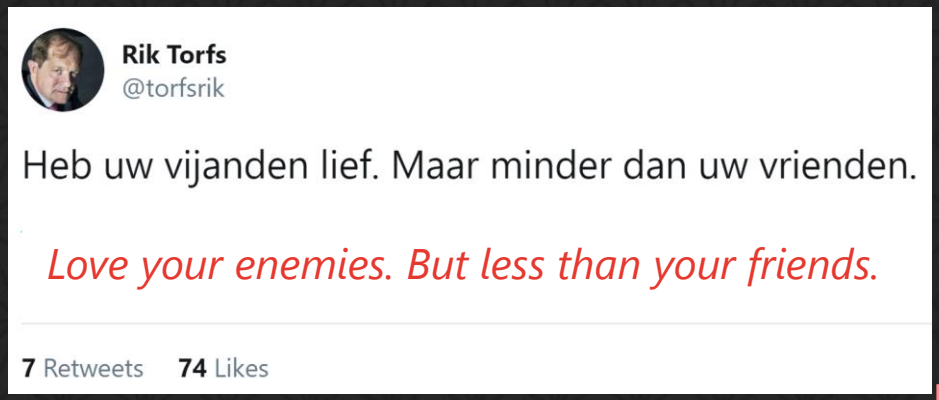
GENERATING PHILOSOPHICAL STATEMENTS USING INTERPOLATED MARKOV MODELS AND DYNAMIC TEMPLATES

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MOTIVATION







Automatically building models for imitating philosophical statements from examples.

HOW TO GENERATE?

Markov Models?

Problem: Markov Model trade-off: variance-bias trade-off:

plagiarism ⟷ *randomness*

Solution: Interpolating Markov models & extracting templates dynamically

Context Free Grammars (e.g. Tracery)?

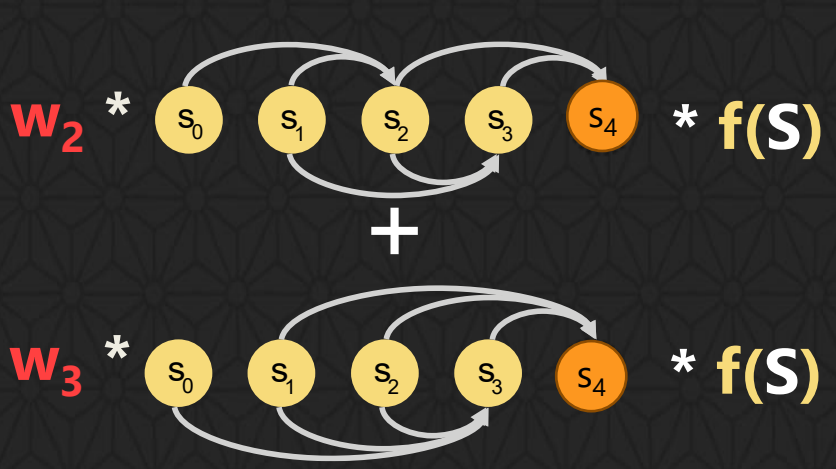
Problem: Large manual effort

Solution: Automatically extract templates

EXTENDING MARKOV MODELS

Classic Markov Model of order k:

$$p(s_{i+1}|s_0, s_1, \ldots, s_i) = p(s_{i+1}|s_{i-k}, s_{i-k+1}, \ldots, s_i)$$



Interpolate with weights *w*

Normalise previous states with *n(.)*

Add weight influencer *f(.)*

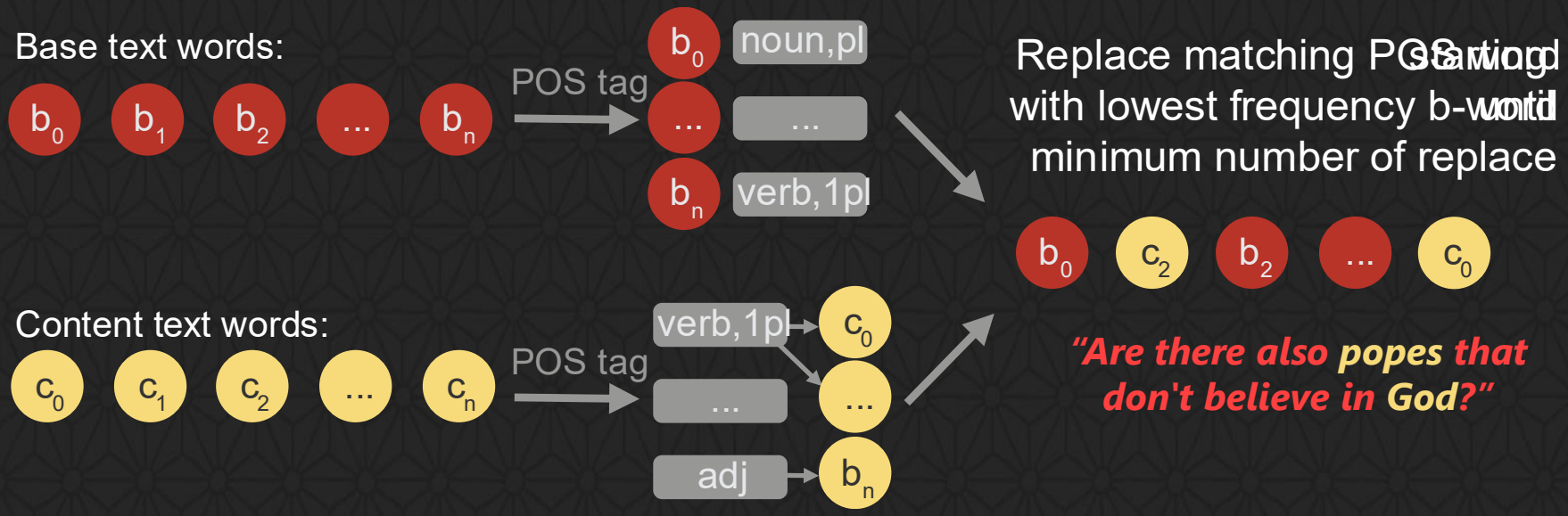
Our Interpolated Markov Model:

$$p(s_{i+1}|s_0, s_1, \ldots, s_i) = \frac{\sum_{j=1}^{k} w_j \cdot p(s_{i+1}|n(s_{i-j}), \ldots, n(s_i)) \cdot f(s_{i+1}, \ldots, s_1)}{\sum_{v \in V} \sum_{j=1}^{k} w_j \cdot p(v|n(s_{i-j}), \ldots, n(s_i)) \cdot f(v, s_i, \ldots, s_1)}$$

+ **Automatic Shortening** & **Bracket fixing** & **News insertion**

DYNAMIC TEMPLATES

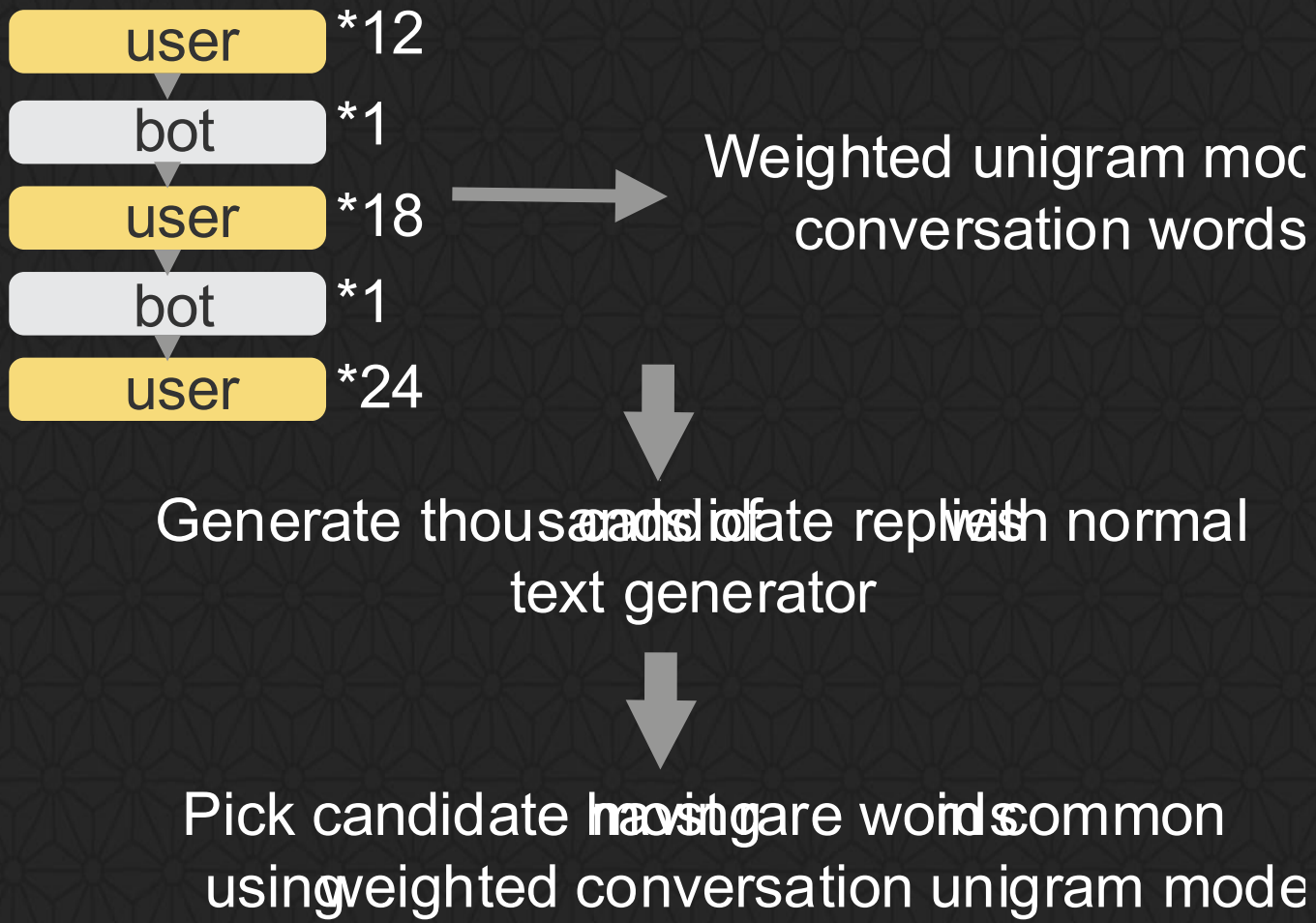
"Are there also atheists that don't believe in atheism?"



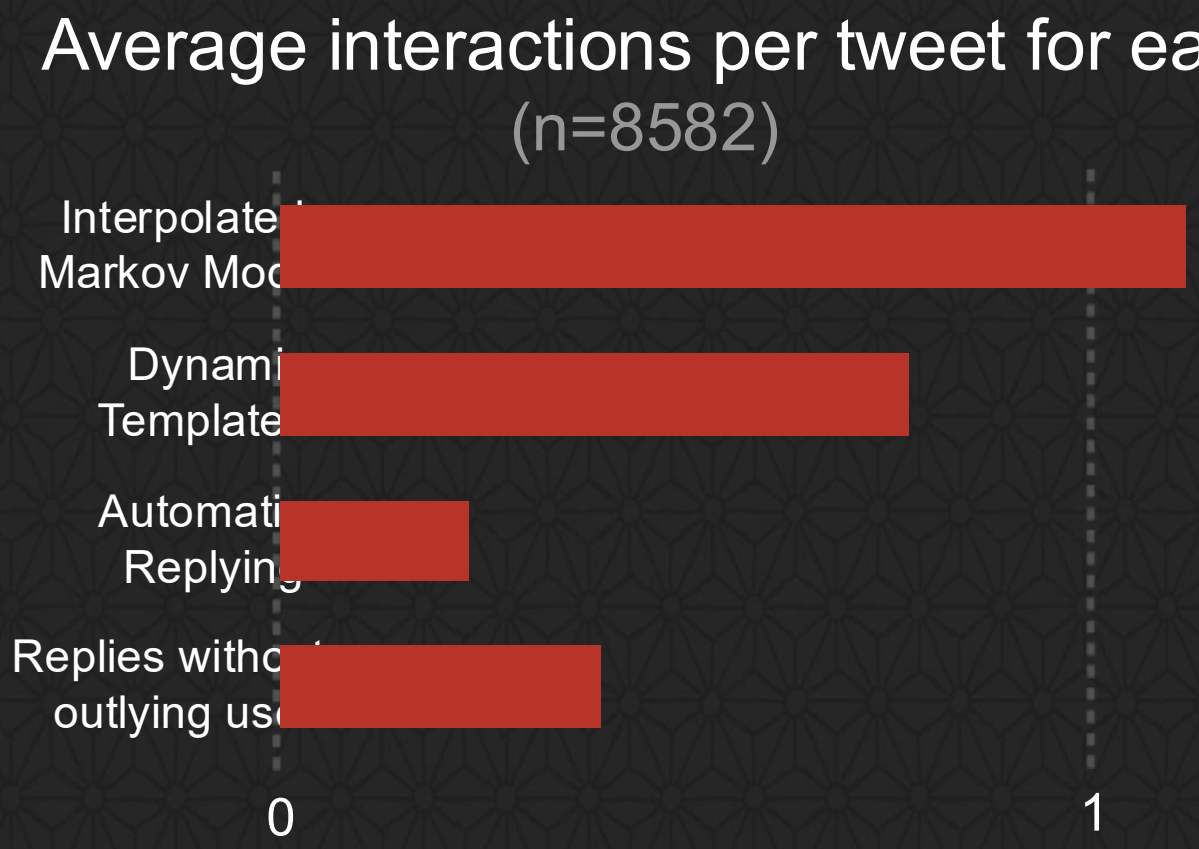
"Are there also popes that don't believe in God?"

"They see the fact that the former God is not trying to deny this newly acquired insight as proof of them being right. Even with the Church, things are not going well. Norse popes."

AUTOMATIC REPLYING



EVALUATION



Twitterbot: @TorfsBot

(one of) most popular Belgian Twitterbot

CONCLUSION

Interpolated Markov Models perform **better** for **generating philosophical statements** than extracting dynamic templates.



COME SEE MY POSTER

FRIDAY NEXT WEEK

Twitterbot: @TorfsBot
Code: github.com/twinters/torfs-bot & /markov

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