

# A Framework for Political Portmanteau Decomposition



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# Political Portmanteau

- Portmanteau

- words formed by combining sounds and meanings of two words

- brunch = **br**eatfast + **lunch**

- motel = **mo**tor + **ho**tel

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- Political portmanteau (PP)

- portmanteau in which at least one word refers to political entity

- libtard = **liberal** + **retard**                      repugnican = **repugnant** + **republican**

# Political Portmanteau

- Portmanteau

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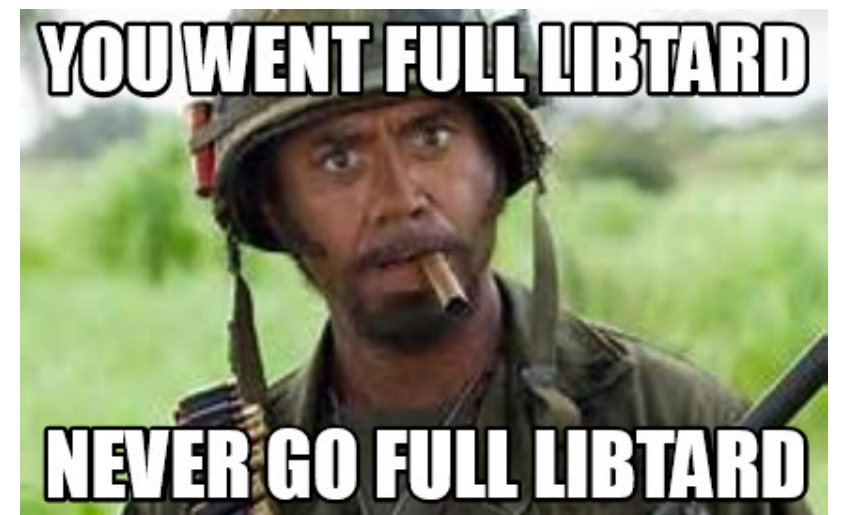
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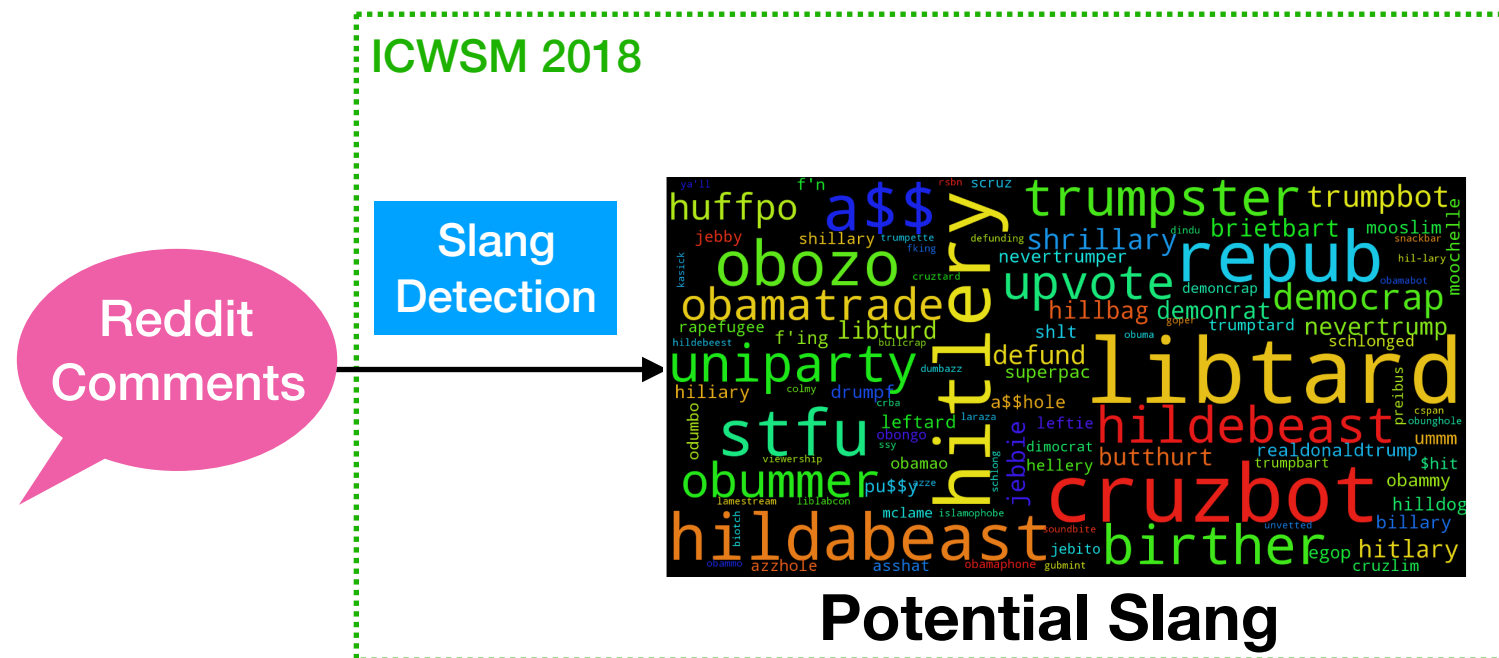
- offensive; political framing
- creative, humorous, slang, sticky
- can be used in hate speech



# Contributions

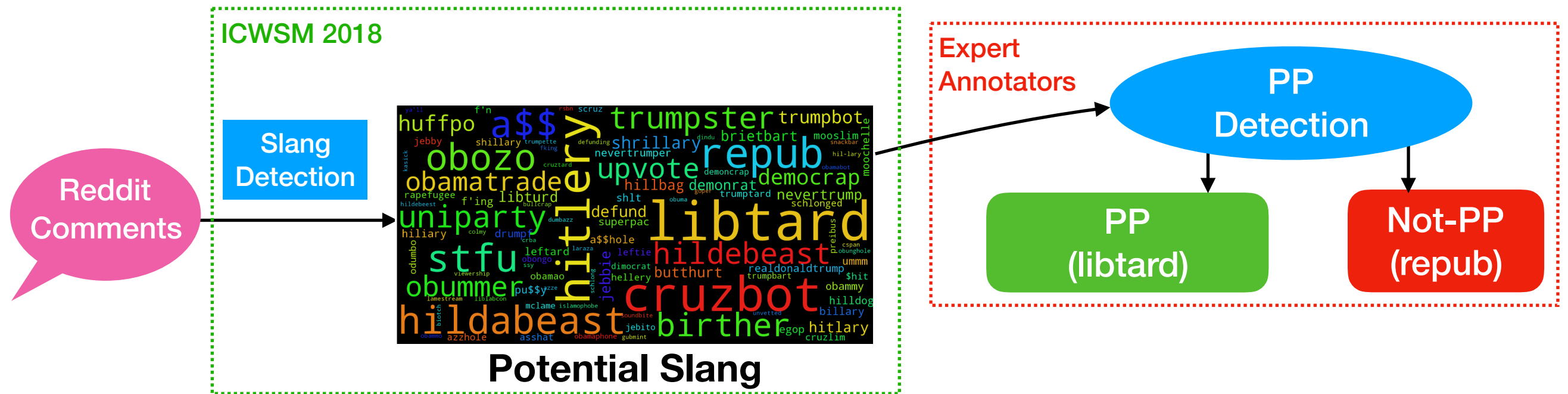
- Framework for identifying political portmanteau from the web
- Algorithm for PP detection and decomposition into root words
- First shared dataset of PP

# Method



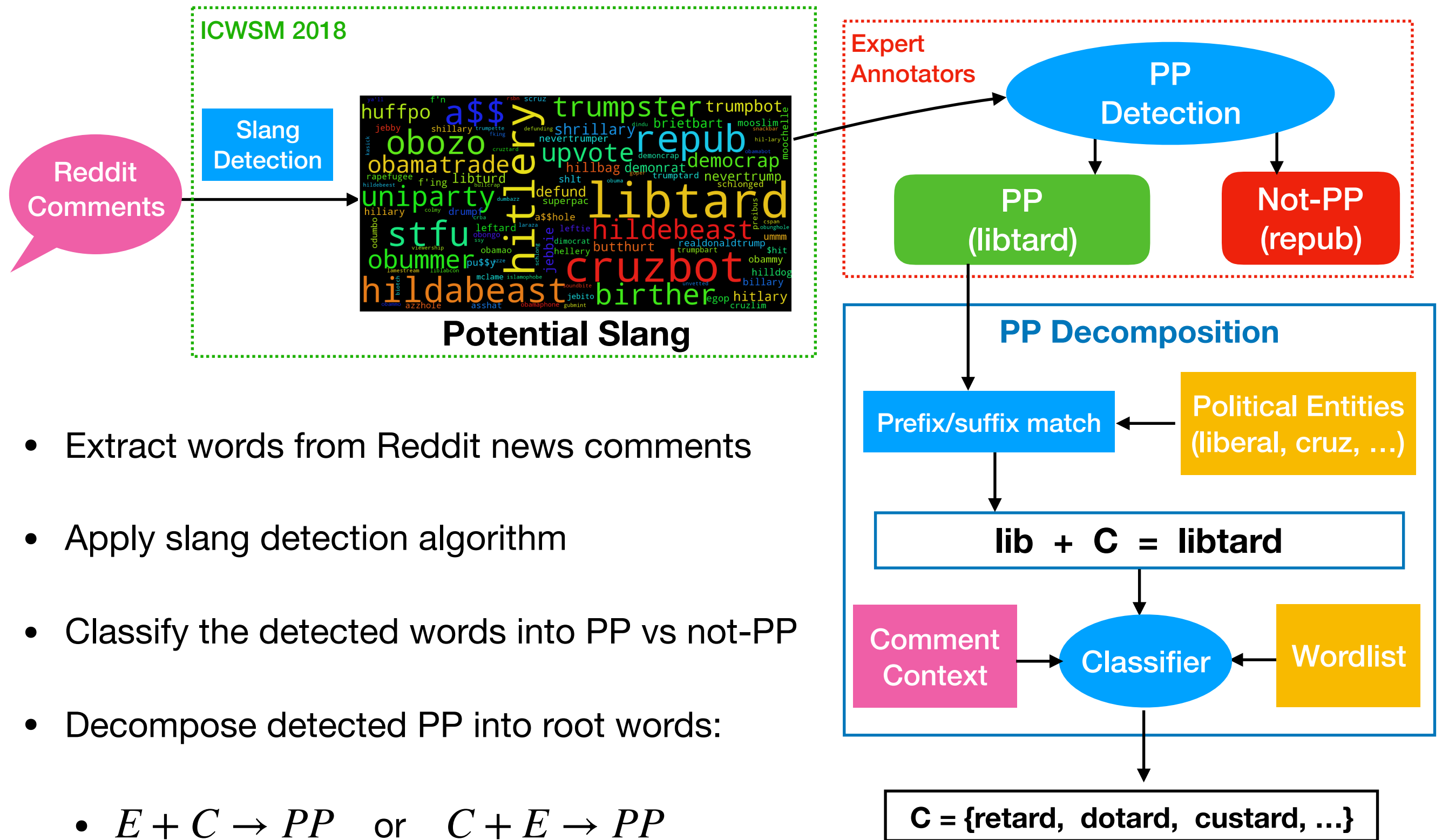
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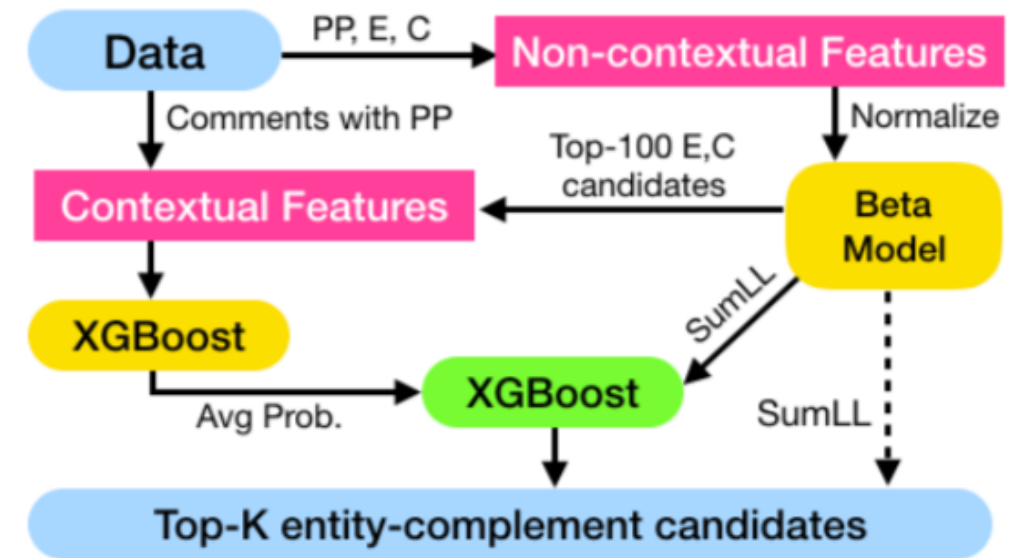


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- Decompose detected PP into root words:
  - $E + C \rightarrow PP$  or  $C + E \rightarrow PP$



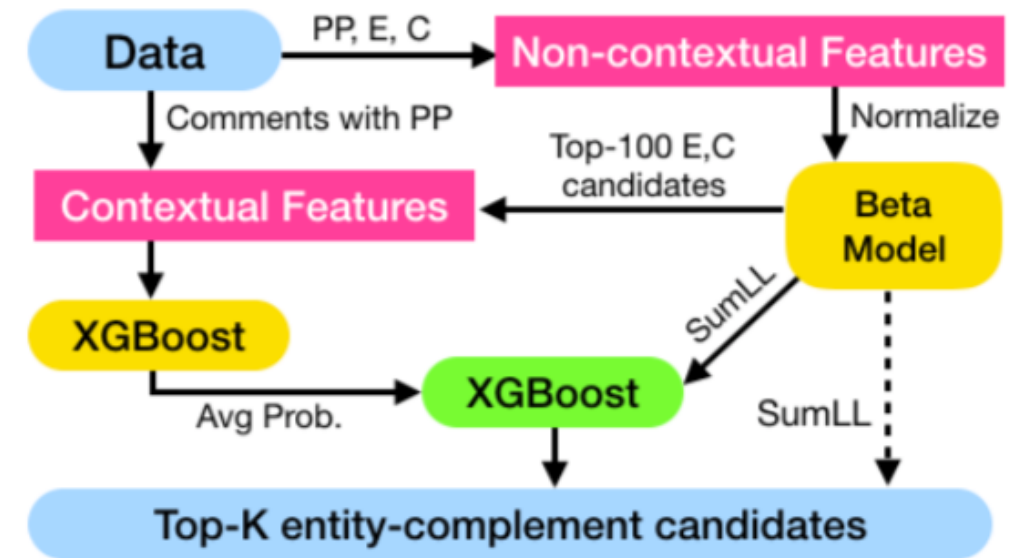
# Model Details

- $\beta$  distribution Model — no contextual features
  - Edit distances, word length, usage frequency
  - capture sound blending and word popularity
- XGBoost — uses pre-trained GloVe word vector features from comments
  - also uses  $\beta$  distribution model features



# Results

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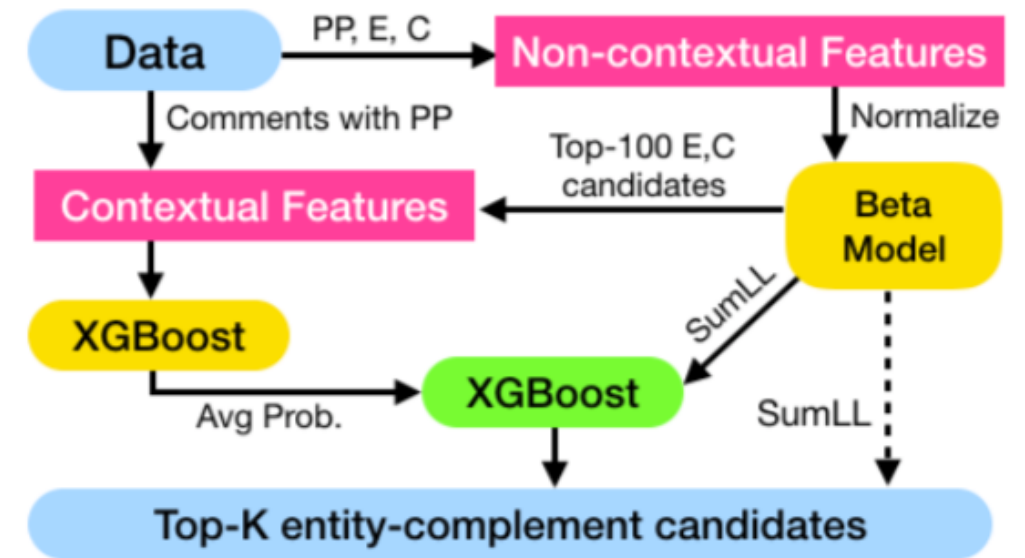


Model	Top1	Top3	Top5	Top10
Random	47.48	57.75	62.57	67.61
Beta Model (no context)	62.17	72.43	75.45	79.07
XGBoost (with context)	76.23	86.72	90.34	93.36

**PP Decomposition Accuracy**

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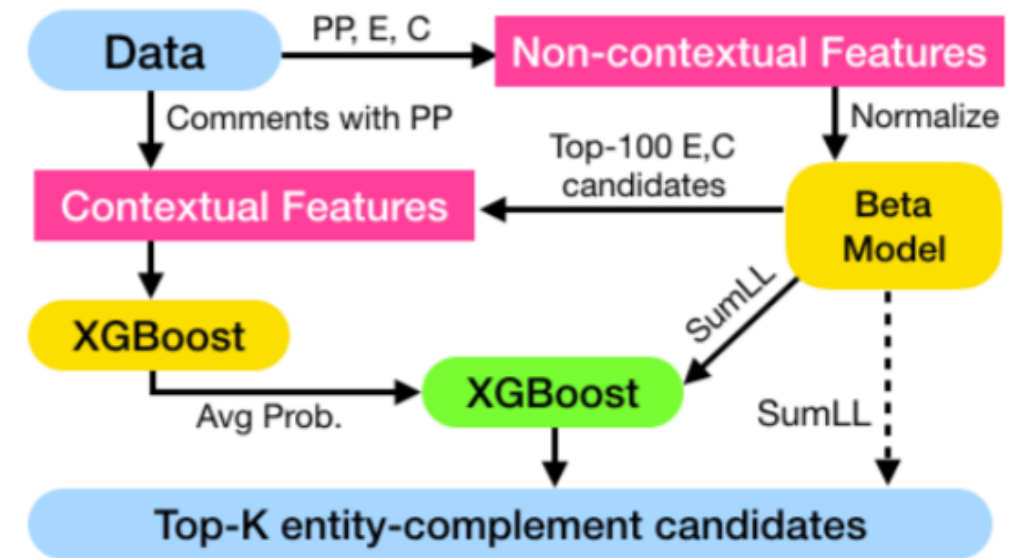
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Model	Accuracy
Chance (always predict "not PP")	66.2
Bi-LSTM	69.5
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BERT	78.8
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