

## 01 MOTIVATION

- > Dictionaries like the Oxford English Dictionary are continuously updated
- > Oxford University Press maintains LEMUR, an internal database of update candidates
- > Lexicographers manually evaluate each entry, but this process is time-consuming

### spam (verb) – LEMUR candidate

“To press or strike (a computer key, button, etc.) many times in quick succession.” – Should it be added to the dictionary?

## 02 DATA SOURCES

| Source                       | Description   |
|------------------------------|---|
| LEMUR                        | OUP internal candidate database (sense ID, lemma, PoS, sense description) |
| NOW Corpus                   | 23.2B words, web news & magazines, from 2010 to now                       |
| Oxford Dictionary of English | headword, PoS, sense definitions, and usage examples                      |

### 23.2B

words in corpus

### 2,746

total usages

### 48

words in test set

### 1,300

LEMUR sense proposals

## 03 PIPELINE

### S0 Usage Retrieval

Retrieve usages of a given headword from the NOW corpus

### S1 Filter Recorded Usages

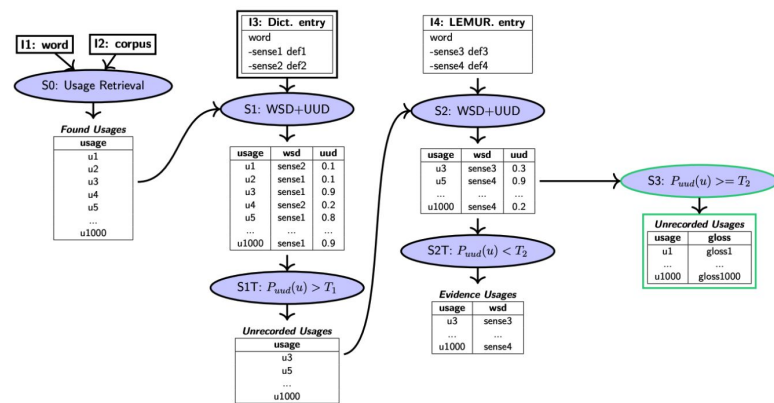
Use dictionary to remove usages that contain known/recorded senses

### S2 Find LEMUR Evidence

Repeat procedure, compare against LEMUR update candidates

### S3 Sense Proposal Generation

Generate sense definition proposal for each cluster



### Evidence Usage (LMR2-81764)

In dramatic sequences, God of War might ask the player to **spam** “X” or twirl the control sticks to mimic the action happening on screen

## 04 EVALUATION – USAGE RETRIEVAL

30 SWEs + 30 MWEs sampled randomly from LEMUR  
Usages from NOW Corpus for the years 2020 to 2024

| Metric        | Score  |
|---------------|--------|
| Median Recall | ≈94.2% |
| Precision     | 100%   |

## 05 EVALUATION – UNKNOWN SENSE DETECTION

24 in-dict + 24 out-of-dict words, 2 native English annotators

