University of Zurich[UZH]

Department of Computational Linguistics

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~~A Contrastive Multilingual Dataset for Evaluating Loanwords~~
A Matchwise Manytongued Givenshoard for Weighing Loanwords

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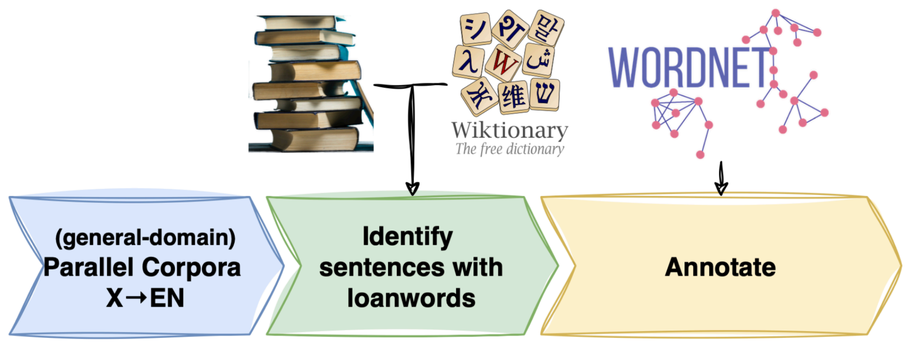
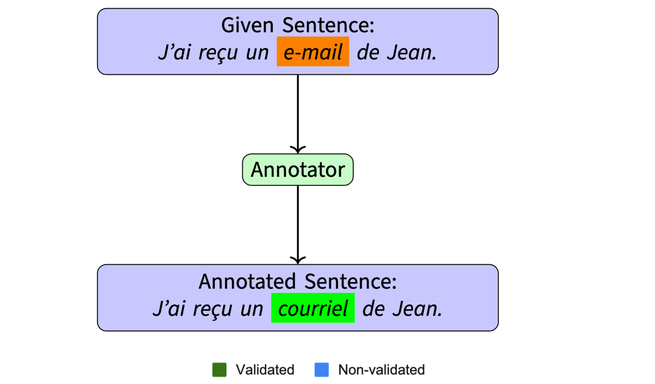
Motivation

- Loanwords studied for decades in historical linguistics but not that much in NLP/CL
- Under-explored NLP fields: NMT, language education, low-resource NLP, code-switching
- Missing: Loanwords in context and across languages, especially for machine translation
- **Need: Contrastive multilingual datasets to evaluate how NLP systems handle borrowed vs. native vocabulary**

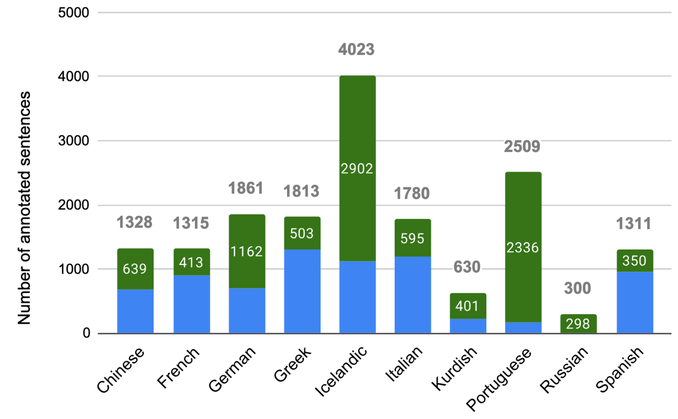




ConLoan

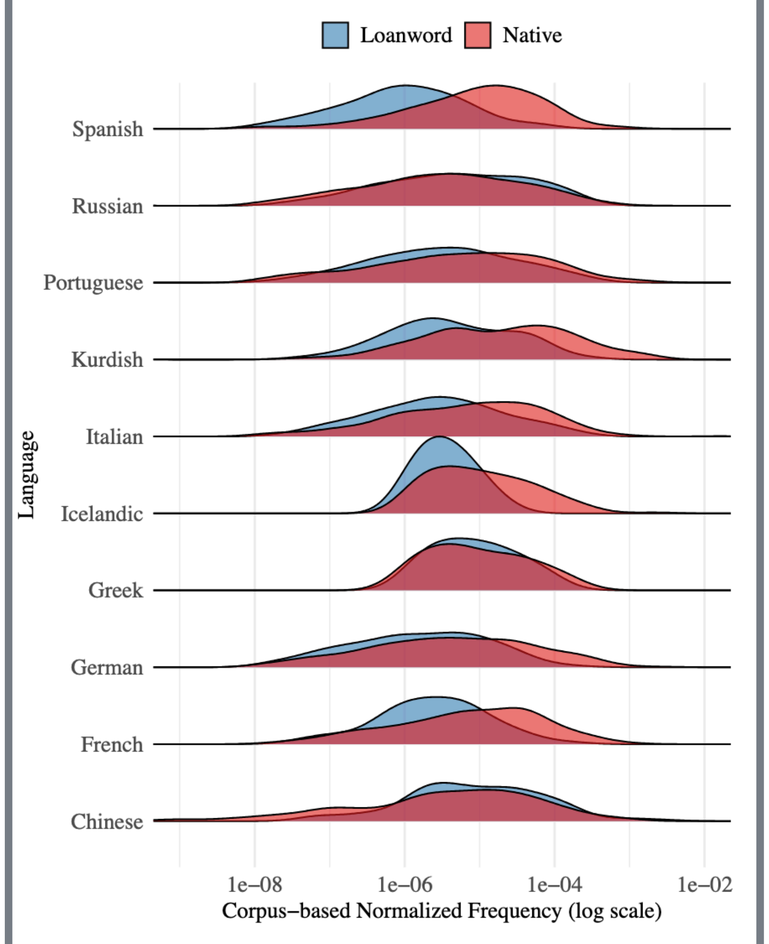
A contrastive dataset: loanwords in sentences are replaced by native alternative

- 16,870 sentences across 10 languages: **Chinese, French, German, Greek, Icelandic, Italian, Kurdish, Portuguese, Russian, Spanish**
- 56.9% contain loanwords
- 55.78% of the loanwords are replaced by native non-identical words.

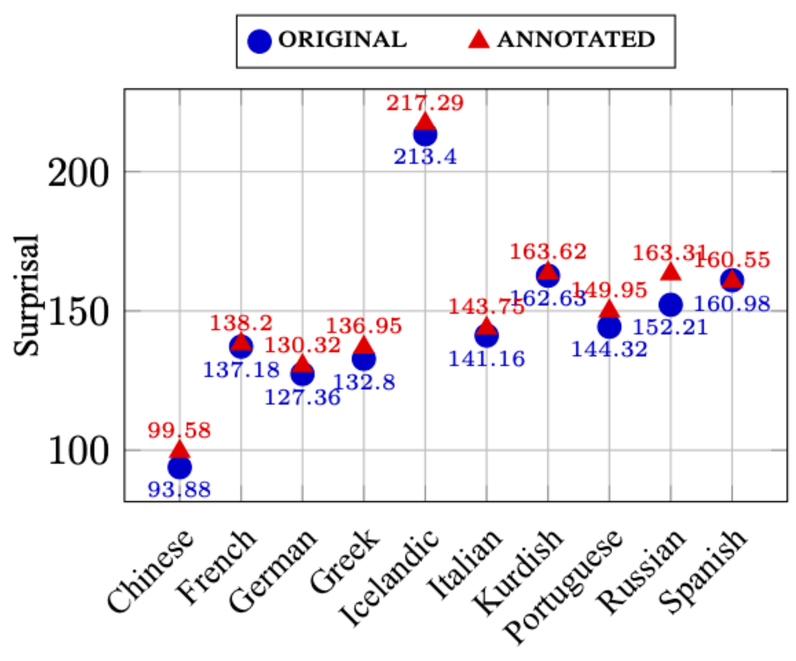


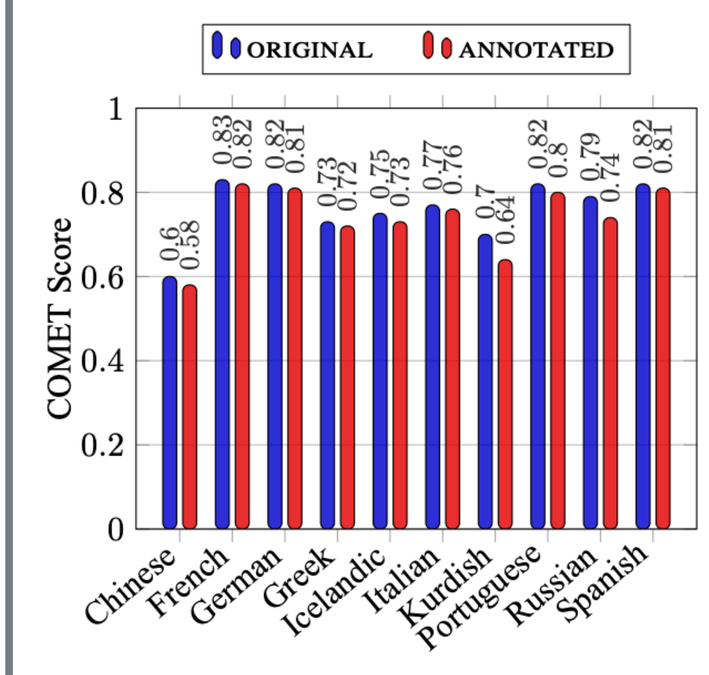
Key Findings

Finding 1: Native words are MORE frequent than loanwords in natural text



Finding 2: LLMs show LOWER surprisal for loanword sentences





Finding 3: NMT performs WORSE when translating native alternatives

Conclusion

- Loanword replacement is complex: varies significantly by language and context
- Comprehensive multilingual resources needed for loanword identification and analysis
- ConLoan enables evaluation of cross-linguistic lexical bias in LLMs
- Current NLP systems show systematic bias toward loanwords over native alternatives

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