

Isabelle LORGE

PERSONAL INFORMATION

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EXPERIENCE

- Apr. 2022-present **Postdoctoral Research Assistant, University of Oxford**
Researching social media polarisation and semantic composition (e-Research lab, Department of Engineering)
- Conducted diagnostic study on pretrained language models' ability to correctly represent intensifiers (e.g., *slightly-very-completely*) in ways which allow scalar vector operations and to perform entailment in a zero-shot setting
 - Built model for agreement/disagreement detection in pairs of social media (Reddit) posts using unsupervised stance detection with projection on embedding subspace and GCNs
- 2019-2022 **AI Researcher, Arabesque AI**
Creating novel NLP models analysing news and social media data (Twitter, Reddit) for stock market prediction
- Transformer architectures, transfer and one-shot learning, open information extraction from syntactic parsing, supervised and unsupervised relation extraction, knowledge graph construction, Neural Tensor Networks for event embedding
 - Pipeline built with BigQuery (processing millions of records of GDELT data), Elasticsearch, Docker, GCP, Kubernetes and Argo
- May-July. 2019 **Intelligence intern, ThoughtRiver**
Anomaly detection in legal documents (Faculty Data Science fellowship 14th)
- Data cleaning and transformation for topic detection
 - Building model successfully detecting and ranking contextual anomalies in contracts
- Nov.-Jan. 2019 **Computational Linguist, Mind.ai**
Building engine for symbolic natural language understanding.
- Parsing into syntax-based data structure for deductive and abductive reasoning
 - Creating algorithm for feature extraction and ontology making
- Apr.-Jul. 2017 **Research Intern, Microsoft Research**
Improving identification and understanding of context-specific features in visually grounded dialogue using deep learning networks.
- Creating novel referring task and gathering data in human participants
 - Building referring expressions generator

EDUCATION

- 2015-2019 **Ph.D in Theoretical and Applied Linguistics, University of Cambridge**
Investigating pragmatic (context-driven) inferences for word learning in bilingual and monolingual children using Bayesian models and human data.
- Designing and implementing tasks for contextual word learning using stimulus management psychology software
 - Gathering data through school/lab interviews and online surveys/crowdsourcing
 - Comparing data with Bayesian model predictions
- 2014-2015 **MPhil in Theoretical and Applied Linguistics, University of Cambridge**
Thesis: 'Exploring the communicative skills of bilinguals: a study of listener-directed speech features'.
- Designing and implementing a novel task to test speech adaptation; computer implementation of cognitive tests
 - Data analysis of phonological and phonetic features using speech recognition software (Praat) and R
- 2012-2014 **Masters in Linguistics, Université Libre de Bruxelles**
(focus on NLP and corpora/annotations in first year , psycholinguistics in second year)
Thesis: 'Metaphor comprehension in bilingual and monolingual children.'
- Creating novel contextual metaphor comprehension task
 - Analysing results with R
- 2009-2012 **Bachelor in Romance Languages and Literatures, Université Libre de Bruxelles**

TOOLS

- **Languages:** Python, R
- **Deep learning frameworks and libraries:** Pytorch, TensorFlow, Keras, transformers, numpy, pandas
- **Operating systems and version control:** Linux/Mac OS X, git
- **Containers, search and cloud:** Docker, Elasticsearch, BigQuery, GCP, Kubernetes, Argo,
- **Miscellaneous:** Dgraph (graph visualisation), Superlab (stimulus management), MATLAB, LaTeX

PUBLICATIONS AND CONFERENCES

- 2022 I. Lorge and J. Pierrehumbert. Not wacky vs. definitely wacky: a study of scalar adverbs in pretrained language models (*submitted to ACL 2023*)
- 2022 I. Lorge and N. Katsos. Monolingual and bilingual children's performance learning words from ostensive teaching (*revised manuscript submitted to Journal of Pragmatics and Cognition*)
- 2019 I. Lorge and N. Katsos. Bilingual exposure improves use of contrastive inference and prosody in fast mapping. *In Proceedings of BUCLD (Boston University Conference on Language Development), 43d edition, Boston, November 2-4.* <http://www.lingref.com/buclid/43/BUCLD43-28.pdf>

- 2018 Theory of mind or cognitive biases? Factors influencing pragmatic inference and audience design. *ESPP18 (European Society for Philosophy and Psychology)*, Rijeka, Sep 10-13.
- 2018 When do we read minds? Methodological and developmental variation in pragmatic inference. *DUCOG (Dubrovnik Conference on Cognitive Science)*, 10th edition, Dubrovnik, May 24-27.
- 2018 I. Lorge and N. Katsos. Listener-adapted-speech: bilinguals adapt in a more sensitive way, *Linguistic Approaches to Bilingualism*. <http://doi.org/10.1075/lab.16054.lor>
- 2017 Investigating pragmatic word learning in bilingual and monolingual children. *MEITS (Multilingualism: Empowering Individuals Transforming Societies) seminar series*, Cambridge, Nov. 16th.
- 2016 Bilinguals' sensitivity to pragmatic information in word learning. *UCL Xprag workshop*, London, May 21st.
- 2016 Listener-directed speech: bilinguals adapt in a more sensitive way. Poster presented at *ISBPAC (International Symposium on Bilingualism Processing in Adults and Children)*, Kaiserslautern, May 24-25.
- 2015 Exploring the communicative skills of bilinguals: A study of listener-directed speech features. Poster presented at *UICM5 (Utterance Interpretation and Cognitive Models)*, 5th edition, Brussels, Sep. 24-25.
- 2015 Les injonctions alimentaires, un phénomène inexploré: des catégories aux mythes urbains. *Le discours et la langue* 6, pp.29-48.
- 2013 Conversational games. *LSB's Linguists' Day*, Leuven, May 11th.
- 2012 Mange et tais-toi. *Symposium 'Le manger et le dire'*, Brussels, Sep 19-22.

LANGUAGES

FRENCH: Native ENGLISH: Fluent SPANISH: Proficient DUTCH: Elementary proficiency

TEACHING

- 2016-2018 Supervisor, Li3 : Language, Brain and Society, **University of Cambridge**
- 2013 Teaching Assistant, General Linguistics, **Université Libre de Bruxelles**
- 2012 Teaching Assistant, Spanish Diachrony, **Université Libre de Bruxelles**

INVITED TALKS AND SERVICE

- Feb. 2023 Invited talk *Polarisation in social media: linguistic and network approaches* for **Oxford Global Leadership Initiative**
- Sept. 2022-present Coordinator for **OxNLP** reading group
- Dec. 2021 Participated to **Women in Tech** panel organised by **The Linacre Institute**

- Nov. 2021 Participated to **codebar**'s panel 'Ask an Artificial Intelligence Researcher Anything'
- June 2021 Talk on knowledge graphs for **Women Who Code** webinar <https://vimeo.com/578128637>
- June 2020 Interview for **ULAB** https://issuu.com/u-lingua/docs/u-lingua_issue_1?fbclid=IwAR2MhdhjTn7XLVEtjppKLSahoe1FDhAVYgd5399xcFholp5a003b6uzB21I
- 2017-present Reviewer for **Linguistic Approaches to Bilingualism**
- 2016-present Part of the **Cambridge Bilingualism Network**
works to improve communication between bilingualism researchers and the general public through public engagement events, such as the Cambridge Festival of Ideas
- 2016-present **Student Minds** graduate representative,
liaising between organisation and college welfare, advertising events
- 2016-2018 Coordinator of the **Experimental semantics and pragmatics cluster**
- 2016 Co-organiser of workshop *Interdisciplinary perspectives on Code-Switching*, Cambridge, Oct. 3-4.
- 2016 Co-organiser of *Xprag cluster workshop*, May 21st.
- 2016 Social and Dining officer, **St John's college graduate society**
organising, coordinating and advertising a variety of events with other officers, liaising with catering and college, managing budget demands, safety issues, sustainability (graduate garden party, graduate symposium, freshers' week, exchanges between colleges)
- 2015 Co-organiser of *UICM5, 'The impact of bilingualism on cognitive and linguistic development'*, Brussels, Sep. 24-25.

SCHOLARSHIPS

- 2015 **St John's College Scholarship** (*full scholarship for three years of PhD research at the University of Cambridge*)
- 2014 **Wiener-Anspach Scholarship** (*full scholarship for an Mphil degree at the University of Cambridge*)