

# Hayley Ross

Computational Linguistics | Organization & Project Management

PhD Student, Harvard University

## Education

### PhD in Linguistics

**Harvard University** 2020 – pres.

- › Designed & conducted 10 experiments on 600+ total participants to study pronoun ambiguity, in collaboration with theoreticians
- › Probed language models' ability to generalize the meaning of adjective-noun pairs and capture "between the lines" meaning
- › Created a course to introduce undergraduates with no technical background to computational linguistics and language models
- › Organized weekly talk series incl. a panel with 50+ attendees

### MSc in Computational Linguistics

**Brandeis University** 2018 – 2020

### Master's in Mathematics

**University of Oxford** 2011 – 2015

## Experience (selected)

### Research Intern

**Raytheon BBN Technologies, Cambridge, MA** Summer 2022

- › Conducted controlled experiments on event extraction methods
- › Analyzed data using embedding t-SNEs and dependency parses

### Research Intern

**Raytheon BBN Technologies, Cambridge, MA** Summer 2019

- › Implemented, improved & published a neural temporal relation parser based on BERT (achieved +8 points F1 over state of the art)

### Software Developer

**Ghyston, Bristol, UK** 2015 – 2018

- › Developed 14 full-stack projects across industries & languages, including a 10x faster CSV-to-SQL processor, a drag & drop UI for financial XML, and a live bus tracker
- › Managed a two-person project, including estimation, budget, staffing, software development and final delivery
- › Mentored junior & client developers and conducted code reviews

## Publications (selected)

Min, Bonan, **Hayley Ross**, [6 others], and Dan Roth (*accepted to ACM Computing Surveys*). 'Recent Advances in Natural Language Processing via Large Pre-Trained Language Models: A Survey.' [arXiv preprint arXiv:2111.01243](https://arxiv.org/abs/2111.01243).

**Ross, Hayley** Jonathon Cai, and Bonan Min (2020). 'Exploring Contextualized Neural Language Models for Temporal Dependency Parsing.' In *Proceedings of EMNLP 2020*. <https://aclanthology.org/2020.emnlp-main.689/>

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<https://rossh2.github.io>

## Skills

### NLP

Large language models  
Few-shot prompting & probing  
Data exploration & analysis  
Annotation design

### Linguistics

Behavioral experiment design  
Language-to-meaning mapping

### Project management

Personnel & budget management  
Client communication

### Technical communication

Written & oral presentation  
Non-technical audiences  
Workshop/course design

## Technology

Python (incl. PyTorch, TensorFlow)  
R, SQL, Regex, Java  
C#, JavaScript/TypeScript, Haskell  
Git, Unix/Linux, LaTeX, Markdown

## Languages

English	native
German	native
French	fluent (B2)
Latin	