Hayley Ross

Computational Linguist | Researcher | Organizer & Project Manager

PhD Student, Harvard University

hayley.ross@zoho.com

https://rossh2.github.io

Education

PhD in Linguistics

Harvard University **2020 – pres.**

› Probed large language models' ability to generalize the meaning of adjective-noun pairs to pairs unseen during pretraining
› Evaluated GPT-2 and GPT-3 on "between the lines" meaning
› Designed & conducted 10 experiments on 600+ total participants to study pronoun ambiguity, in collaboration with theoreticians
› Created introductory course on large language models for undergraduates with no technical background
› 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 **Jun–Aug 2022**

› Fine-tuned XLM-R for cross-lingual transfer learning for event extraction & compared efficacy of different problem formulations
› Analyzed data using embedding t-SNEs and dependency parses

Research Intern

Raytheon BBN Technologies, Cambridge, MA **Jun–Aug 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, including code reviews

Skills

NLP & Machine learning

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
Git, Unix/Linux, LaTeX, Markdown

Languages

English	native
German	native
French	fluent (B2)
Latin	

Publications (selected)

Min, Bonan, **Hayley Ross**, [6 others], and Dan Roth (2023). 'Recent Advances in Natural Language Processing via Large Pre-Trained Language Models: A Survey.' ACM Computing Surveys. https://doi.org/10.1145/3605943

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/