HAYLEY ROSS

Harvard University Department of Linguistics
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RESEARCH AREAS

Computational linguistics

Behavioral and classifier-based probing of linguistic knowledge in large language models

Theoretical and experimental semantics

Adjective-noun composition
Crossover
Definites and indefinites

EDUCATION

Ph.D. in Linguistics, Harvard University   2020 – 2025

Advisors: Kathryn Davidson, Najoung Kim (BU)
Thesis: "When is a fake concert still a concert? A study of adjective-noun composition in humans and large language models"

MS in Computational Linguistics, Brandeis University   2018 – 2020

Advisor: James Pustejovsky
Thesis: "The Falsity of the Consequent in Contrastive Conditionals"

Master of Mathematics, Oxford University   2011 – 2015

Advisor: Robin Knight
Thesis: "The Iterative Conception of Set Theory"

EXPERIENCE

Research Intern, Raytheon BBN (Cambridge, United States)   Summer 2022

PI: Bonan Min
Event extraction with large language models

Research Intern, Raytheon BBN (Cambridge, United States)   Summer 2019

PI: Bonan Min
Temporal dependency parsing with large language models

Software Developer, Ghyston (Bristol, United Kingdom)   2015 – 2018

Full-stack software development and project management

Software Development Intern, TNG Technology Consulting (Munich, Germany) Summer 2012

Software Development Intern, Ergon Informatik (Zurich, Switzerland)   Summer 2011

Publications (peer-reviewed)

Ross, Hayley, Najoung Kim & Kathryn Davidson. Fake reefs are sometimes reefs and sometimes not, but are always compositional. *Accepted to Experiments in Linguistic Meaning*

Ross, Hayley, Gennaro Chierchia & Kathryn Davidson (2023). Quantifying weak and strong crossover for wh-crossover and proper names. *Proceedings of Sinn und Bedeutung, vol. 27*: 535–553.

Min, Bonan, **Hayley Ross**, Elior Sulem, Amir Pouran Ben Veyseh, Thien Huu Nguyen, Oscar Sainz, Eneko Agirre, Ilana Heintz & Dan Roth (2023). Recent Advances in Natural Language Processing via Large Pre-Trained Language Models: A Survey. *ACM Computing Surveys*.

Ross, Hayley (2023). Implications of the Danish definiteness alternation for concord in Nanosyntax. *Annual Review of the Faculty of Philosophy 47(3 – SinFonIJA14 Special Issue)*: 15–41.

Ross, Hayley, Jonathon Cai & Bonan Min (2020). Exploring Contextualized Neural Language Models for Temporal Dependency Parsing. *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP)*: 8548–8553.

Ross, Hayley (2020). The Falsity of the Consequent in Contrastive Conditionals. *Proceedings of the ESSLLI & WeSSLLI Student Session 2020*.

Talks & Workshops

Experiment design workshop (with Yuhan Zhang). Harvard Meaning & Modality Lab. March 2024.

Teaching

Teaching Assistant: Quantitative Methods in Linguistics (graduate/undergraduate)	Spring 2024
Instructor: Tutorial – Junior Year (undergraduate, 6 weeks)	Fall 2023

Course title: "Introduction to Computational Linguistics and Large Language Models"

Teaching Assistant: Language and Society (undergraduate)	Fall 2023
Teaching Assistant: Language, Structure, and Cognition (undergraduate)	Spring 2023
Teaching Assistant: Knowledge of Meaning (undergraduate)	Fall 2022

Service

Co-organizer, Harvard Language & Cognition (weekly interdisciplinary talk series)	2022 – 2024
Reviewer, CogSci (conference; 6-page papers)	Spring 2024
Co-organizer, Southern New England Workshop in Semantics (annual graduate student conference)	2023
Reviewer, ACL Student Research Workshop (conference; 4/8-page papers)	Spring 2023
Panelist, Industry careers panel (department-wide panel)	Spring 2023
Event coordinator, Harvard Graduate Students in Linguistics (department socials)	2021 – 2023

AWARDS & GRANTS

MBB Young Investigator and Graduate Student Research Award   2022 – 2025
Harvard University (awarded in 2022 and again in 2024)

Douglas Dillon Fellowship Fund, Harvard University   2020 – 2025

Aravind K. Joshi Award   2020
for Outstanding Achievement in Computational Linguistics, Brandeis University

College Scholarship/Exhibition, Oxford University (awarded yearly)   2012 – 2015

William Buckland Award, Oxford University (awarded termly)   2012 – 2013

SKILLS & LANGUAGES

Programming languages

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

Natural languages

English, German (bilingual); French (fluent – B2)