Alexis J. Ross

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EDUCATION Massachusetts Institute of Technology, Cambridge, Massachusetts Sept 2022 – Present

Ph.D. in EECS

Advisor: Jacob Andreas

Harvard University, Cambridge, Massachusetts

Sept 2016 – May 2020

A.B. with Honors in Computer Science and Philosophy (Joint)

RESEARCH Allen Institute for AI (AI2), AllenNLP July 2020 – July 2022

EXPERIENCE Predoctoral Researcher

Mentors: Ana Marasović and Matthew E. Peters

Harvard University, Computer Science and Philosophy Sept 2019 – May 2020

Mentors: Himabindu Lakkaraju and Bernhard Nickel

Senior Thesis: Using Linear Approximations to Explain Complex, Blackbox Classifiers

Microsoft Research May 2019 – Aug 2019

Research Intern, Project Hanover

Mentor: Tristan Naumann

Project: Machine Reading for Precision Medicine

Johns Hopkins, Center for Language and Speech Processing

June 2018 – Aug 2018

Undergraduate Researcher, JSALT Workshop

Mentor: Ellie Pavlick

Project: General-Purpose Sentence Representation Learning

Harvard University, Cognitive Neuropsychology Laboratory Feb 2017 – Aug 2017

Research Assistant

Mentors: Gilles Vannuscorps and Alfonso Caramazza

Project: Object Orientation Perception

PREPRINTS [1] Reasoning or Reciting? Exploring the Capabilities and Limitations of Language Models Through Counterfactual Tasks.

Zhaofeng Wu, Linlu Qiu, **Alexis Ross**, Ekin Akyurek, Boyuan Chen, Bailin Wang, Najoung Kim, Jacob Andreas, Yoon Kim. *Preprint*.

[2] ARIES: A Corpus of Scientific Paper Edits Made in Response to Peer Reviews .

Mike D'Arcy, **Alexis Ross**, Erin Bransom, Bailey Kuehl, Jonathan Bragg, Tom Hope, Doug Downey. *Preprint*.

PUBLICATIONS [3] CREST: A Joint Framework for Rationalization and Counterfactual Text Generation.

Marcos Treviso, Alexis Ross, Nuno M. Guerreiro, Andre Martins. ACL, 2023.

[4] Does Self-Rationalization Improve Robustness to Spurious Correlations?.

Alexis Ross, Matthew Peters, Ana Marasović. EMNLP, 2022.

[5] Tailor: Generating and Perturbing Text with Semantic Controls.
Alexis Ross*, Tongshuang Wu*, Hao Peng, Matthew Peters, Matt Gardner. ACL, 2022.

[6] Learning Models for Actionable Recourse.

Alexis Ross, Himabindu Lakkaraju, and Osbert Bastani. NeurIPS, 2021.

[7] Competency Problems: On Finding and Removing Artifacts in Language Data. Matt Gardner*, William Merrill*, Jesse Dodge, Matthew E. Peters, Alexis Ross, Sameer Singh, Noah Smith. EMNLP, 2021.

| | THERE I LOSS and Line I avried. Emilie 2019. Old presentation. |
|------------------------|---|
| | [10] Probing what different NLP tasks teach machines about function word comprehension. Najoung Kim, Roma Patel, Adam Poliak, Alex Wang, Patrick Xia, R Thomas McCoy, Ian Tenney, Alexis Ross, Tal Linzen, Benjamin Van Durme, Samuel R Bowman, and Ellie Pavlick. *SEM 2019. Best Paper Award. |
| SELECTED HONORS | Diverse Intelligences Summer Institute Fellowship NSF Graduate Research Fellowship Third Prize, Inverse Scaling Competition MIT Shillman Fellowship Thomas T. Hoopes Prize "for extraordinary undergraduate research" (senior thesis) EMNLP Student Travel Scholarship Certificate of Distinction in Teaching for a student evaluation of 4.8/5.0 |
| Invited Talks | Towards Adaptive Teaching with Large Language Models, DI Summit Towards Model Development with Tailored Supervision, IST & Unbabel Seminars Generating and Perturbing Text with Semantic Controls, AI2 (All Hands) July 2023 April 2023 August 2021 |
| SERVICE | Co-organizer, cs-sop.org, resource for CS PhD applicants Mentor, MIT EECS Graduate Application Assistance Program (GAAP) Co-organizer and frequent host, NLP Highlights Podcast, over 9000 views in October Co-organizer, AllenNLP Hacks, a hackathon for minoritized students Presented workshop: "My First NLP Project" Secondary Reviewer, ACL Mentor, Harvard Women in Computer Science |
| TEACHING EXPERIENCE | CS 121: Introduction to the Theory of Computation Teaching Fellow, Harvard School of Engineering and Applied Sciences Instructor: Boaz Barak Sept 2018 – Dec 2018 |
| OTHER Experience | Solo, Chamber, and Orchestral Violinist 2002 – Present 2023 – MIT Chamber Music Society 2016 – 2018 Violinist in the Harvard-Radcliffe Orchestra 2016 – 2020 Chamber Music Performance at Harvard. Coaches: Parker Quartet 2014 – 2016 Juilliard Pre-College, Diploma in Violin Performance. Teacher: Ann Setzer 2013 – 2015 Summers at the Meadowmount School of Music |
| | Mental Health Advocacy and Counseling, Harvard University 2017 – 2020 Events Co-Chair, Student Mental Health Liaisons 2018 – 2020 Peer Mental Health Counselor, Room 13 |

[8] Explaining NLP Models via Minimal Contrastive Editing (MiCE).

Alexis Ross and Ellie Pavlick. EMNLP 2019. Oral presentation.

[9] How well do NLI models capture verb veridicality?

Alexis Ross, Ana Marasović, and Matthew E. Peters. Findings of ACL, 2021.