

# ELINOR POOLE-DAYAN

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## EDUCATION

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### Massachusetts Institute of Technology (MIT)

*Master's of Science*

Cambridge, MA, USA

Sept. 2023 – May 2025

- Advised by [Deb Roy](#) in the [MIT Center for Constructive Communication](#). GPA 5.0/5.0
- Thesis: *From Dialogue to Decision: An LLM-Powered Framework for Analyzing Collective Idea Evolution and Voting Dynamics in Deliberative Assemblies* (Grade: A+)

### McGill University

*Bachelor's in Honours Computer Science and Mathematics*

Montréal, QC, Canada

Sept. 2019 – May 2023

- First Class Honours with Distinction. GPA 3.9/4.0

## RESEARCH & PROFESSIONAL EXPERIENCE

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### Predoctoral Researcher

*Massachusetts Institute of Technology (MIT)*

July 2025 – Present

Cambridge, MA, USA

- Research on pluralistic alignment in LLMs [[C.1](#), [W.1](#)] and evaluating the fairness of AI's societal impacts; supervised by [Michiel Bakker](#).

### Graduate Research Assistant

*Center for Constructive Communication, MIT Media Lab*

Sept. 2023 – June 2025

Cambridge, MA, USA

- Conducted research related to fairness and bias in LLMs [[C.2](#), [C.4](#)] and computational social science [[C.3](#), [W.3](#)].
- Played a key role in the design and execution of the [MIT Student Deliberative Assembly on Sustainability](#) [[R.1](#)].
- Supported engineering and design efforts for tech-enhanced deliberative assembly pilots in Ireland and Oregon.
- Led lab efforts to organize and write documentation and developed custom API wrappers for Fora data handling.

### Data Science Intern

*Unity Technologies*

May 2022 – Aug. 2022

Montréal, QC, Canada

- Optimized deep learning algorithms to throttle bid requests in Unity's Ad Exchange using Tensorflow.
- Decreased model training time by 25% and reduced model size and number of parameters by 50%.
- Created a text data preprocessing pipeline on Google Cloud Platform Dataflow using Apache beam.

### NLP Research Intern

*McGill University*

Jan. 2022 – May 2022

Montréal, QC, Canada

- Identified the geo-indicativeness of text using BERT applied to geosocial datasets to build a safety tool for social media. Supervised by [Grant McKenzie](#).

### NLP Research Intern

*Shamoon College of Engineering*

June 2021 – Aug. 2021

Be'er Sheva, Israel

- Classified author gender of books to perform a case study on female authors who wrote under male pseudonyms.
- Preprocessed data using CoreNLP and scikit-learn. Designed and implemented baseline experiments using SVMs.
- Supervised by [Irina Rabaev](#) and [Marina Litvak](#).

### NLP Research Intern

*Mila - Quebec AI Institute*

Jan. 2021 – May 2021

Montréal, QC, Canada

- Investigated the effect of gender debiasing on fine-tuned language models such as BERT using PyTorch.
- Explored debiasing methods and reformulated bias metrics for racial and religious biases.
- Published paper in ACL with Nick Meade [[C.6](#)] and supervised by [Siva Reddy](#).

**Academic Conference Publications**

- C.1. **Poole-Dayana**, E., Wu, J., Sorensen, T., Pei, J. & Bakker, M. A. *Benchmarking Overton Pluralism in LLMs* in *The Fourteenth International Conference on Learning Representations (ICLR)* (Apr. 2026). <https://openreview.net/forum?id=f2VxF4QIx1>.
- C.2. **Poole-Dayana**, E., Roy, D. & Kabbara, J. *LLM Targeted Underperformance Disproportionately Impacts Vulnerable Users* in *Proceedings of the AAAI Conference on Artificial Intelligence* (Jan. 2026). <https://arxiv.org/abs/2406.17737>.
- C.3. Hughes, M., Roy, B., **Poole-Dayana**, E., Roy, D. & Kabbara, J. *Computational Analysis of Conversation Dynamics through Participant Responsivity* in *Proceedings of the 2025 Conference on Empirical Methods in Natural Language Processing (EMNLP)* (Nov. 2025). <https://aclanthology.org/2025.emnlp-main.1798/>. (*Oral Presentation*).
- C.4. Fulay, S., Brannon, W., Mohanty, S., Overney, C., **Poole-Dayana**, E., Roy, D. & Kabbara, J. *On the Relationship between Truth and Political Bias in Language Models* in *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP)* (Nov. 2024). <https://aclanthology.org/2024.emnlp-main.508>.
- C.5. Krojer, B., **Poole-Dayana**, E., Voleti, V., Pal, C. & Reddy, S. *Are Diffusion Models Vision-And-Language Reasoners?* in *Advances in Neural Information Processing Systems (NeurIPS)* (2023). [https://proceedings.neurips.cc/paper\\_files/paper/2023/file/1a675d804f50509b8e21d0d3ca709d03-Paper-Conference.pdf](https://proceedings.neurips.cc/paper_files/paper/2023/file/1a675d804f50509b8e21d0d3ca709d03-Paper-Conference.pdf).
- C.6. Meade, N., **Poole-Dayana**, E. & Reddy, S. *An Empirical Survey of the Effectiveness of Debiasing Techniques for Pre-trained Language Models* in *Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (ACL)* (May 2022). <https://aclanthology.org/2022.acl-long.132>.

**Workshop Papers & Extended Abstracts**

- W.1. **Poole-Dayana**, E., Wu, J., Pei, J. & Bakker, M. A. *Benchmarking Overton Pluralism in LLMs* [NeurIPS 2025 LLM Evaluation Workshop](#) (San Diego, CA, USA). Dec. 2025. (*Poster Presentation*).
- W.2. **Poole-Dayana**, E. & Roy, D. *Tracing Idea Evolution in Democratic Deliberation with LLMs* [COLM 2025 NLP4Democracy Workshop](#) (Montréal, Canada). Oct. 2025. (*Oral Presentation*).
- W.3. **Poole-Dayana**, E., Kessler, D. T., Hughes, M., Lin, E. S., Ganz, M. & Roy, D. *LLMs for Public Narrative Understanding* [NAACL 2025 Workshop on Narrative Understanding](#) (Albuquerque, NM, USA). May 2025. (*Poster Presentation*).
- W.4. **Poole-Dayana**, E. & Roy, D. *LLM Targeted Underperformance Disproportionately Impacts Vulnerable Users* [NeurIPS 2024 Safe Generative AI Workshop](#) (Vancouver, Canada). Dec. 2024. (*Poster Presentation*).
- W.5. **Poole-Dayana**, E. & Roy, D. *Sandbagging in LLMs: Systematic Underperformance for Uneducated and ESL Users* [International Conference on Computational Social Science \(IC2S2\)](#) (Philadelphia, PA, USA). July 2024. (*Poster Presentation*).

**Pre-prints & Under Review**

- R.1. **Poole-Dayana**, E., Roy, D. & Kabbara, J. *An AI-Powered Framework for Analyzing Collective Idea Evolution in Deliberative Assemblies* Aug. 2025. <https://arxiv.org/abs/2509.12577>.
- R.2. Poole-Dayana\*, E., Kessler\*, D. T., Chiou, H., Hughes, M., Lin, E. S., Ganz, M. & Roy, D. *Applying Large Language Models to Characterize Public Narratives* May 2025. <https://arxiv.org/abs/2511.13505>.

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**INVITED TALKS AND RESEARCH PRESENTATIONS**

**Feb 2026** – Mila Quebec AI Institute [FATE & Society Reading Group](#). Invited talk: *Benchmarking Overton Pluralistic Alignment [C.1]*

**Oct 2025 – COLM NLP4Democracy Workshop.** Oral presentation: *Analyzing Collective Idea Evolution in Democratic Deliberation with LLMs* [W.2]

## TEACHING EXPERIENCE

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### **Kaufman Teaching Certificate**

Feb. 2025 – May 2025

*MIT Teaching + Learning Lab*

*Cambridge, MA, USA*

- Developed teaching skills through eight practice-based workshops, evaluated through 2 microteaching sessions, received individual feedback from peers and teaching experts, and implemented evidence-based teaching techniques grounded in the scholarship of teaching and learning.
- Developed a syllabus for a course titled *Ethics, Fairness, and Bias in Generative Language Models*.

### **Teaching Assistant: Intro to Media Arts & Sciences**

Sept. 2024 – Dec. 2024

*MIT Media Lab*

*Cambridge, MA, USA*

### **Teaching Assistant: Honours Algorithms & Data Structures**

Jan. 2022 – May 2022

*McGill University*

*Montréal, QC, Canada*

## AWARDS AND HONOURS

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**2025 – AAAI 2026 Student Scholarship & Volunteer Award** (\$2,100)

**2023 – Mila Excellence Scholarship - EDI in Research** (\$5,000)

**2023 – Canadian Graduate Scholarship - Master's (NSERC)** (\$17,500)

**2020 – Lev Bukhman Internship Award** (\$1,070)

**2019–2021 – Dean's Honour List** (top 10% of class by GPA)

**2019–2021 – J W McConnell Scholarship** (\$9,000)

**2019 – NY Cardiac Center Scholarship** (\$20,000)

**2019 – National AP Scholar**

**2019 – National Merit Scholarship Award** (\$2,500)

**2018 – Positive Coaching Alliance Triple-Impact Competitor Scholarship** (\$1,000)

## MENTORSHIP

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**Jiayi Wu, Brown University** (Summer 2025): Benchmarking Overton Pluralism with LLM-as-a-Judge [C.1, W.1]

**Hannah Chiou, Wellesley College** (Spring 2025): Computational Analysis of Public Narratives with LLMs [R.2]

## ACADEMIC SERVICE

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**Reviewer for ACL Rolling Review:** October 2025 (EACL); May 2025 (EMNLP); December 2024 (ACL); October 2024 (NAACL; Emergency Reviewer)

**Reviewer for AAAI:** Social Impact Track 2026

**Reviewer for ICLR:** 2026

## TECHNICAL SKILLS

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**Programming Languages:** Python, Java, Javascript, C, Unix/Linux, OCaml, SQL

**Machine Learning & Data Science:** TensorFlow, PyTorch, Keras, scikit-learn, pandas, NumPy, matplotlib, seaborn, plotly

**Cloud Computing:** Google Cloud Platform, Amazon Web Services, Docker, slurm cluster