

Tiwalayo Eisape

Psycholinguistics, Natural language processing, Machine learning
eisape@mit.edu | eisa.pe

Education

- 2019 – Ph.D, Cognitive Science, Massachusetts Institute of Technology
Advisors: Roger Levy, Yoon Kim
- 2015 – 2019 B.S, Computer Science, Boston College
Advisors: Joshua Hartshorne, Stefano Anzellotti

Academic Positions

- 2022 – Student Representative to the Board, Cognitive Science Society
- 2025 – (Inaugural) Chair of the Graduate Student Steering Committee, Cognitive Science Society

Other Positions

- 2024 FAIR Labs (Meta AI), Researcher Scientist Intern
Supervisors: Adina Williams, Karen Ullrich
- 2023 Google AI, Student Researcher
Supervisors: Tal Linzen, Fei Sha
- 2019 Vimeo Applied Machine Learning, Research Intern

Honors and Awards

- 2021 Graduate Research Fellowship (National Science Foundation)
- 2019 GEM Full Fellowship (InterActiveCorp/GEM Consortium)
- 2019 Dean of Sciences Fellowship (MIT)
- 2019 Presidential Fellowship (MIT)
awarded & declined
- 2019 Matthew R. Copithorne Scholarship (Boston College)
- 2016 Ronald E. McNair Scholarship (The Federal TRIO Programs)
- 2021 Walle Nauta Teaching Award (MIT)
- 2019 Order of the Cross and Crown (Boston College)

Talks

- 2024 Brain & AI (PI: Jean Remi-King), Meta AI
- 2024 Reasoning, Attention, & Memory ('RAM' group; PI: Jason Weston), Meta AI
- 2023 Stanford NLP Seminar, Stanford
- 2021 How Can Findings about the Brain Improve AI Systems workshop, ICLR
- 2021 Wehbe Lab, Carnegie Mellon University
- 2021 EdinburghNLP, The University of Edinburgh
- 2021 Psycholinguistics Coffee, The University of Edinburgh
- 2019 Machine Learning Reading Group, Vimeo

Publications

Undergrad and Masters Advisees are underlined

Eisape, T., Tesler, M., Dasgupta, I., Sha, F., Steenkiste, S., & Linzen, T. (2024). A Systematic Comparison of Syllogistic Reasoning in Humans and Language Models. In Proceedings of the 2024 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL).

Zhou, X., Su, Z., **Eisape, T.**, Kim, H., & Sap, M. (2024). Is this the real life? Is this just fantasy? The Misleading Success of Simulating Social Interactions With LLMs. In Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP).

Eisape, T., Gangireddy, V., Levy, R. & Kim, Y. (2022). Probing for Incremental Parse States in Autoregressive Language Models. Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP).

Liu, Z., **Eisape, T.**, Prud'hommeaux, E., & Hartshorne, J. (2022). Data-driven Crosslinguistic Syntactic Transfer in Second Language Learning. In Proceedings of the 44th Annual Meeting of the Cognitive Science Society.

Tucker, M., **Eisape, T.**, Qian, P., Levy, R., & Shah, J. (2022). When Does Syntax Mediate Neural Language Model Performance? Evidence from Dropout Probes. In the proceedings of the 21st Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL).

Chen, R., Levy, R., & **Eisape, T.** (2021). On Factors Influencing Typing Time: Insights from a Viral Online Typing Game. In Proceedings of the 43rd Annual Meeting of the Cognitive Science Society and the 34th Annual CUNY Conference on Human Sentence Processing.

Eisape, T., Zaslavsky, N., & Levy, R. (2020). Cloze Distillation: Improving Neural Language Models with Human Next-Word Predictions. In Proceedings of the 24th Conference on Computational Natural Language Learning.

Eisape, T., Levy, R., Tenenbaum, J., & Zaslavsky, N. (2020). Toward human-like object naming in artificial neural systems. In The Bridging AI and Cognitive Science workshop at the 8th International Conference on Representation Learning.

Abstracts & Preprints

Eisape, T., Merrill, W., Dietz, S., & Hartshorne, J. (2020). Grammatical Accents: Using Machine Learning to Quantify Language Transfer. In In the proceedings of the 43rd Annual Meeting of the Cognitive Science Society and the proceedings of the 33rd Annual CUNY Conference on Human Sentence Processing.

Eisape, T., Grasso, S., Kurt, L., Lim, C., & Hartshorne, J. K. (2022). Replication of Conway and Christiansen (2005) Modality-Constrained Statistical Learning of Tactile, Visual, and Auditory Sequences.

Choong, H., **Eisape, T.**, ... & Hartshorne, J. K. (2018). Fourth Replication of Saffran, Newport, & Aslin (1996) Word segmentation: The role of distributional cues.

Teaching

Graduate courses

(Spring) 2021 Teaching Assistant, Cognitive Science (MIT)
(Fall) 2020 Teaching Assistant, Computational Cognitive Science (MIT)
(Fall) 2018 Teaching Assistant, Computational Models of Cognition (Boston College)

Undergraduate courses

(Fall) 2018 Teaching Assistant, Data Mining (Boston College)
(Spring) 2019 Teaching Assistant, Algorithms (Boston College)
(Spring) 2018 Teaching Assistant, Computer Science I (Boston College)
(Spring) 2018 Teaching Assistant, Personal and Social Responsibility (Boston College)
(Fall) 2018 Teaching Assistant, Personal and Social Responsibility (Boston College)
(Fall) 2017 Teaching Assistant, Personal and Social Responsibility (Boston College)

Organizing

Conferences

2021 Technical Session Chair, Conference of the Cognitive Science Society

Speaker Series/Reading Groups

2022 CompLang, MIT
2019 Machine learning reading group, Vimeo

Students

- 2022 - 2023 Vineet Gangireddy, Applied Mathematics (Harvard)
Thesis: A Computational Approach to Recontextualization in Human Reading Behavior.
- 2022 - 2023 Jesus Crespo, Computation and Cognition (MIT)
Thesis: Head-Seeking RNNGs: On the Relationship between Top-down Prediction and Evidence Integration in Parsing.
- 2022 Nicole Wong, Computer Science (MIT)
- 2022 Heidi Lei, Mathematics (MIT)
- 2021 Vinh Le, Computation and Cognition (MIT)
- 2020 Robert Chen, Computer Science (MIT)
- 2020 Carl Joshua Quines, Mathematics (MIT)

Professional Service

- 2020 - Diversity Ambassador, Office of Graduate Education, (MIT)
- 2022 MIT Summer Research Program Mentor, Office of Graduate Education, (MIT)
- 2020 Reviewer, DataKind/Data.org
Inclusive Growth & Recovery Challenge
- 2017 Tutor, Resilient Coders
- 2018 Preceptor, Options Through Education (Boston College)
- 2017 Council Member, PULSE Program for Service Learning (Boston College)
- Reviewing (journals):** Openmind ('21, '23)
- Reviewing (conferences):** Cogsci ('20, 21, '23, '24)

Misc.

- 2016 Captain, Boston College Varsity Men's Rowing