Nathaniel Imel

EDUCATION

New York University Ph.D. in Psychology (Cognition and Perception)	New York, NY 2024–now
University of California, Irvine Ph.D. Program in Language Science Ph.D. Program in Logic and Philosophy of Science	Irvine, CA 2023–2024 2022–2023
University of Washington M.S. in Computational Linguistics	Seattle, WA 2020–2022
University of California, San Diego B.A. in Philosophy	La Jolla, CA 2016–2020

EXPERIENCE

Posh Technologies	Boston, MA
NLP Research Intern	Summer 2021

PEER REVIEWED JOURNAL PUBLICATIONS

1. Steinert-Threlkeld, S., Imel, N. & Guo, Q. A semantic universal for modality. *Semantics and Pragmatics*. https://doi.org/10.3765/sp.16.1 (2023).

Conference proceedings and workshop papers

- 2. Imel, N. & Zaslavsky, N. Optimal compression in human concept learning. in *Proceedings of the 46th Annual Meeting of the Cognitive Science Society* (2024).
- 3. Imel, N. & Hafen, Z. Citation-similarity relationships in astrophysics. in AI for Scientific Discovery: From Theory to Practice Workshop (AI4Science @ NeurIPS) (2023).
- 4. Imel, N., Futrell, R., Franke, M. & Zaslavsky, N. Noisy population dynamics lead to efficiently compressed semantic systems. in NeurIPS Workshop on Information-Theoretic Principles in Cognitive Systems Workshop (InfoCog @ NeurIPS) (2023).
- 5. Imel, N. The evolution of efficient compression in signaling games. in *Proceedings of the 45th Annual Meeting of the Cognitive Science Society* (2023).
- 6. Imel, N. & Steinert-Threlkeld, S. Modals in natural language optimize the simplicity/informativeness trade-off. in *Proceedings of Semantics and Linguistic Theory (SALT 32)* (2022).
- 7. Guo, Q., Imel, N. & Steinert-Threlkeld, S. A Database for Modal Semantic Typology. in *Proceedings of the 4th Workshop on Research in Computational Linguistic Typology and Multilingual NLP* (Association for Computational Linguistics, Seattle, Washington, July 2022).

PREPRINTS

- 8. Imel, N., Guo, Q. & Steinert-Threlkeld, S. An efficient communication analysis of modal typology. https://ling.auf.net/lingbuzz/007392 (2023).
- 9. Uegaki, W., Mucha, A., Imel, N. & Steinert-Threlkeld, S. Deontic priority in the lexicalization of impossibility modals. https://psyarxiv.com/h63y9/ (2023).

Talks and Presentations

Optimal compression in human concept learning Cogsci 2024 (Rotterdam, NL)	7/24/24
Citation-similarity relationships in astrophysics literature	
Santa Fe Institute Workshop on Intelligence and Representation (Cambridge, UK)	8/18/23
Modals in natural language optimize the simplicity/informativeness trade-off	
Semantics and Linguistic Theory (Mexico City, CDMX)	6/08/22
Experiments in Linguistic Meaning (Philadelphia, PA)	5/18/22
Noisy population dynamics lead to efficiently compressed semantic systems	
University of Tübingen Linguistics Colloquium (virtual)	7/04/23
MIT Computational Psycholinguistics Lab (Cambridge, MA)	10/17/23
Evolang 2024 (Madison)	5/19/24

SOFTWARE

The unnatural language toolkit (ULTK)

With Shane Steinert-Threlkeld, Chris Haberland, and Mickey Shi. (link).

Sciterra: a library for topographic analyses of scientific literature

With Zachary Hafen. (link).

AWARDS

Santa Fe Institute Complexity GAINs Summer Fellowship	2023
North American Summer School for Logic, Language and Information Student Fellowship (USC)	2023
Merit Fellowships (UC Irvine School of Social Sciences)	2022
Accepted to Summer School in Logic and Formal Epistemology (CMU)	2021
Best paper "Desire Semantics", selected for UC San Diego undergraduate philosophy journal Intuitions	2020

TEACHING

• Introduction to Syntax (LSCI 20)	Winter, Spring 2024
• Introduction to Linguistics (LSCI 3)	Fall 2023
• Basic Economics I (ECON 20A)	Spring 2023
• Introduction to Symbolic Logic (LPS 30)	Winter 2023

SERVICE

•	Ad-hoc reviewing: InfoCog Workshop @ Neurips, EvoLang, California Annual Meeting of Psycholinguistics	2023
•	Department Colloquium Committee	2023
•	Organizing Committee for Society for Computation in Linguistics Conference	2023