email · website · linkedin · github

Nathaniel Imel

Education

University of California, Irvine — Irvine, CA
Ph.D. in Language Science — 2023–now
Ph.D. Program in Logic and Philosophy of Science — 2022–2023

University of Washington — Seattle, WA
M.S. in Computational Linguistics — 2020–2022

University of California, San Diego — La Jolla, CA
B.A. in Philosophy — 2016–2020

Summer Programs
Santa Fe Institute International Summer School (Complexity-GAINS) — Cambridge, 2023
North American Summer School for Logic, Language and Information (NASSLLI) — USC, 2022
Summer School in Logic and Formal Epistemology (LFE) — CMU, 2021

Publications

[1] **N. Imel**, The evolution of efficient compression in signaling games, in *Proceedings of the Annual Meeting of the Cognitive Science Society (Cogsci 32)*, to appear, 2023.

[2] S. Steinert-Threlkeld, **N. Imel**, and Q. Guo, A semantic universal for modality. *Semantics and Pragmatics*, 2023.

[3] Q. Guo, **N. Imel**, and S. Steinert-Threlkeld, A database for modal semantic typology, in *Proceedings of the 4th Workshop on Research in Computational Linguistic Typology and Multilingual NLP*, Seattle, Washington: Association for Computational Linguistics, Jul. 2022, pp. 42–51.

[4] **N. Imel** and S. Steinert-Threlkeld, Modals in natural language optimize the simplicity/informativeness trade-off, in *Proceedings of Semantics and Linguistic Theory (SALT 32)*, 2022.

Talks and Presentations

Modals in natural language optimize the simplicity/informativeness trade-off
Semantics and Linguistic Theory (Mexico City) — 6/08/22
Experiments in Linguistic Meaning (Philadelphia) — 5/18/22

The evolution of efficient compression in signaling games
University of Tübingen Linguistics Colloquium (virtual) — 7/04/23
CogSci 2023 (Sidney, virtual) — 7/26/23

Works in progress

The observed citation-similarity relationship in astrophysics
With Zachary Hafen.

Evolutionary dynamics lead to the emergence of efficiently compressed meaning systems
With Richard Futrell and Michael Franke. (email for a draft)

An efficient communication analysis of modal typology
With Qingxia Guo and Shane Steinert-Threlkeld. (email for a draft)

Deontic priority in the lexicalization of impossibility modals
With Anne Mucha, Wataru Uegaki, and Shane Steinert-Threlkeld. (link).

The artificial language toolkit (ALTK)
With Shane Steinert-Threlkeld. (link).

Awards

Merit Fellowships (UC Irvine School of Social Sciences) 2022

Best paper "Desire Semantics", selected for UC San Diego undergraduate philosophy journal *Intuitions* 2020

Teaching

Teaching Assistant
Econ 20A Spring 2023
Introduction to Symbolic Logic Winter 2022

GRADUATE COURSEWORK

Experimental Methods	Xin Xie
Computability Theory and Incompleteness	Toby Meadows
Game Theory in the Philosophy of Biology	Cailin O'Connor
Information Theory and Language	Richard Futrell
Mathematical Logic	Kai Wehmeier
Set Theory	Toby Meadows
Social Dynamics	Brian Skyrms and Simon Huttegger
Philosophy of Science Foundations	Kyle Stanford
Deep Learning for NLP	Shane Steinert-Threlkeld
Machine Learning	Sewoong Oh and Simon Du
Advanced Statistical Methods for NLP	Fei Xia
NLP Systems and Applications	Gina Anne-Levow
Deep Processing Techniques For NLP	Shane Steinert-Threlkeld
Shallow Processing Techniques For NLP	Fei Xia
Multilingual Grammar Engineering	Emily Bender
Syntax for Computational Linguistics	Emily Bender
Formal Semantics II	Toshiyuki Ogihara
Phonetics	Marina Oganyan

Experience

Posh Technologies Boston, MA
NLP Research Intern Summer 2021

Performed error analysis experiments of chatbot and presented results to NLP team; wrote unit tests for intent-classification software; curated large datasets and pipelines for ML model evalutaion