

Shiva Upadhye

CONTACT INFORMATION

Email: shiva.upadhye@uci.edu
Phone: (650) 484-7171

Education

University of California, Irvine

Ph.D. in Language Science (Cognitive Psychology & Psycholinguistics) 2026

Advisor: Dr. Richard Futrell

Research interests: Computational Psycholinguistics; Cognitive Modeling; Language Production; LLM interpretability;

University of California, San Diego

B.S. in Cognitive Science, Machine Learning & Neural Computation 2020

Minor: Mathematics

Peer-Reviewed Papers

Upadhye S. & Futrell, R. (2025). Examining Future Context Predictability Effects in Word-form Variation and Word Choice. *The Proceedings of the 47th Annual Meeting of the Cognitive Science Society*.

Upadhye S. & Futrell, R. (2025). Examining Future Context Predictability Effects in Word-form Variation and Word Choice. *The Proceedings of the 47th Annual Meeting of the Cognitive Science Society*.

Upadhye S.,* Li J.,* & Futrell, R. (2025). SPACER: A Parallel Dataset of Speech Production And Comprehension of Error Repairs. *The 14th edition of the Workshop on Cognitive Modeling and Computational Linguistics*.

Upadhye S. & Futrell, R. (2023). Typing time PWI: A scalable paradigm for studying lexical production. *Proceedings of the 45th Annual Meeting of the Cognitive Science Society*.

Upadhye S., Bergen L., & Kehler, A (2020). Predicting Reference: What do Language Models learn about Discourse Models? *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing*.

Conference Presentations

Yeaton, JD.*, **Upadhye S.***, Yi, E., & Hickok, G. (2025). Speakers and typers adapt their planning strategies to meet sentence production demands. 17th Annual Meeting of the Neurobiology of Language. Washington DC, USA. (**Poster**)

Upadhye S.* Li Y.*, Li J.* Attali, N. & Scontras G. (2025). GPT-2's Production and Comprehension of Scope Ambiguity (2025). *PragLM @ Conference on Language Modeling* Montreal, Quebec, Canada. (**Poster**)

Upadhye S. & Futrell, R. (2025). Examining Future Context Predictability Effects in Word-form Variation and Word Choice (2025). *47th Annual Meeting of the Cognitive Science Society*. San Francisco, CA, USA. (**Talk**)

Upadhye S., Yeaton, JD., Yi, E., & Hickok, G. (2025). Typing Fluency reveals Psycholinguistic Dynamics of Sentence Production. *The 38th Annual Conference on*

Human Sentence Processing. College Park, MD, USA. (**Poster**)

Upadhye S.*, Li J.* & Futrell, R. (2025). SPACER: A Parallel Dataset of Speech Production And Comprehension of Error Repairs. *The 38th Annual Conference on Human Sentence Processing*. College Park, MD, USA. (**Poster**)

Li Y., Li J., **Upadhye S.**, & Scontras, G. (2025). Language models prefer ambiguous utterances following informative contexts. *The 38th Annual Conference on Human Sentence Processing*. College Park, MD, USA. (**Poster**)

Yeaton, JD, **Upadhye, S.**, Futrell, R., & Hickok, G. (2024). The (Non-)Sentence Repetition Task: A novel assessment of expressive and receptive syntactic competence. *16th Annual Meeting of the Society for the Neurobiology of Language*. Brisbane, Australia. (**Poster**)

Upadhye S., Attali N. & Scontras, G. (2023). The role of world knowledge for interpreting aspect ambiguity. *Tenth Biennial Meeting of Experimental Pragmatics*. Paris, France. (**Poster**)

Upadhye S.*, Li, J.* & Futrell, R. (2023). Bridging production and comprehension: Toward an integrated computational model of error correction. *Society for Computation in Linguistics (SCiL 2023)*. Amherst, MA, USA. (**Poster**).

Li, J.*, **Upadhye, S.*** & Futrell, R. (2023) Bridging production and comprehension: A computational model of error generation and correction. *The 36th Annual Conference on Human Sentence Processing*. Pittsburgh, PA, USA. (**Poster**)

Upadhye S. & Futrell R. (2022). Information-theoretic analysis of disfluencies in speech. *NeurIPS 2022 Workshop on Information Theoretic Principles in Cognitive Systems*. New Orleans, LA, USA. (**Poster**)

Pedagogy & Mentorship

UC IRVINE

Instructor

2025

Introduction to Linguistics (*upcoming*)

Graduate Mentor

2024 - Current

Undergraduate Research Opportunities Program (UROP) Fellowship

Mentee: Mackenzie Leigh Maxwell (Awarded fellowship)

Teaching Assistant

2022 - Current

Introduction to Linguistics, Research methods in Psychology,

Psychology of Language, Public Policy

DTEI Graduate Summer Fellow

2022

Fellowship awarded by the Division of Teaching Excellence and Innovation

(DTEI) for development and improvement of hybrid pedagogy.

UC SAN DIEGO

Instructional Assistant in Computational Linguistics

2020

Service and Awards

Program Chair and Organizer

Society for Computation in Linguistics (2024)

Reviewer

Society for Computation in Linguistics (2024)

California Meeting on Psycholinguistics (2023-2025)

SoCal NLP (2022)

Awards

UCI Center for Theoretical Behavioral Sciences (CTBS) Travel Award (2025)

NeurIPS InfoCog Honorarium (2022)

Graduate Dean's Fellowship, University of California, Irvine (2021 -)

Invited Talk

"Information-Theoretic Planning Effects in Online Language Production" at the Language Production Lab (UC San Diego)

Other Experience

Data Analyst

Oct 2020 - July 2021

Intelligent Fiber Optic Systems Corporation

- Wrote Python software for automated fiber-optic signal calibration
- Assisted in the development and writing of Small Business Innovation Research (SBIR) grants focusing on renewable energy applications of fiber-optic sensing

Computational Neurosciences Intern

Oct 2019 - Jan 2020

National Center for Microscopy and Imaging Research

- Developed processing pipeline in Python/MATLAB for segmentation of 3D neuronal images

Skills

Programming and Software: Python, R, MATLAB, Clojure, Julia, SQL, STAN, PCIBex, PsychoPy