

Sean T. Trott

Assistant Teaching Professor | University of California, San Diego
Ambiguity | Language and cultural evolution | Large language models

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PROFESSIONAL EXPERIENCE

Assistant Teaching Professor

2022-Present

Department of Cognitive Science, University of California, San Diego
Joint Appointment in Computational Social Science

EDUCATION

Ph.D. Student in Cognitive Science

2016-2022

University of California, San Diego

Advisor: Benjamin Bergen

B.A. in Cognitive Science, High Honors

2010-2014

University of California, Berkeley

Thesis advisor: Terry Regier

TEACHING AND MENTORSHIP

Primary Instructor

2021-Present

COGS 153: Language Comprehension [Fall, 2023]

CSS 1: Introductory Programming for Computational Social Science [Fall, 2022]

COGS 14A: Introduction to Research Methods [Spring, 2023]

COGS 101C: Language [Winter, 2023]

CSS 2: Data and Model Programming for Computational Social Science [Winter, 2023]

CSS 1: Introductory Programming for Computational Social Science [Fall, 2022]

COGS 101C: Language [Spring, 2022]

COGS 14B: Introduction to Statistical Analysis [Summer 2021]

COGS 14B: Introduction to Statistical Analysis [Summer 2020]

Teaching Assistant

2016-2022

COGS 101C: Language [Winter, 2022]

COGS 137: Practical Data Science in R [Fall 2021]

COGS 101B: Learning, Memory, and Attention [Winter 2021]

COGS 109: Data Analysis and Modeling [Spring 2021]

COGS 153: Language Comprehension [Spring 2021]

COGS 14B: Introduction to Statistical Analysis [Fall 2020]

COGS 14B: Introduction to Statistical Analysis [Winter 2020]

COGS 14A: Introduction to Research Methods [Winter 2018]

COGS 100: Cyborgs Now and in the Future [Fall 2017]

COGS 101C: Language [Spring 2017]

COGS 3: Introduction to Computing [Winter 2017]

Mentorship

2023: Sidney Ma, Kai Bian

2021: Monica Van

2020: Alex Liebscher

2019: Stefanie Reed

Mentee-led Presentations and Publications

Liebscher, A., Trott, S., & Bergen, B. (2020). Effects of Battle and Journey Metaphors on Charitable Donations for Cancer Patients. In *CogSci*.

ADDITIONAL TRAINING

2020: **Course Design Workshop:** Teaching and Learning Hub, UC San Diego

HONORS AND AWARDS

Chancellor's Research Excellence Scholarship (CRES)

2018-2019

Why are some people better at inferring what others mean?

Mentors: Benjamin Bergen (Cognitive Science); James Hollan (Cognitive Science, CSE)

UC San Diego Teaching Awards (*Nominated by department*)

2021

PEER-REVIEWED PUBLICATIONS

Journal Articles

Trott, S., Jones, C., Chang, T., Michaelov, J., & Bergen, B. (2023). Do Large Language Models know what humans know? *Cognitive Science*, 47(7), e13309. [IF: 2.5]

Trott, S., & Bergen, B. (2023.) Word meaning is both categorical and continuous. *Psychological Review*. [IF: 8.247]

Ruytenbeek, N., Bergen, B., & **Trott, S.** (2023). Prosody and speech act interpretation: The case of French indirect requests. *Journal of French Language Studies*. [IF: 0.27]

DeLong, K., **Trott, S.,** Kutas, M. (2022). Offline dominance and zeugmatic similarity normings of variably ambiguous words assessed against a neural language model (BERT). *Behavior Research Methods*. [IF: 6.08]

Trott, S., Bergen, B., & Wittenberg, E. (2022). Spontaneous, controlled acts of reference between friends and strangers. *Language Resources and Evaluation*, 1-25. [IF: 1.358]

Morey, R. D., Kaschak, M. P., Díez-Álamo, A. M., Glenberg, A. M., Zwaan, R. A., Lakens, D., ... **Trott, S.** ... & Ziv-Crispel, N. (2022). A pre-registered, multi-lab non-replication of the action-sentence compatibility effect (ACE). *Psychonomic bulletin & review*, 29(2), 613-626. [IF: 4.41]

Trott, S., Reed, S., Kaliblotzky, D., Ferreira, V., & Bergen, B. (2022). The Role of Prosody in Disambiguating English Indirect Requests. *Language and Speech*, 00238309221087715. [IF: 1.47]

Trott, S., & Bergen, B. (2022). Languages are efficient, but for whom? *Cognition*, 225, 105094.

Trott, S., & Bergen, B. (2020). Why do human languages have homophones? *Cognition*, 205, 104449.

Trott, S., & Bergen, B. (2020). When Do Comprehenders Mentalize for Pragmatic Inference?. *Discourse Processes*, 1-21.

Trott, S., & Rossano, F. (2020). The Role of Entitlement in Formatting Preferences Across Requesters and Recipients. *Discourse Processes*, 1-22.

Trott, S., & Bergen, B. (2018). Individual Differences in Mentalizing Capacity Predict Indirect Request Comprehension. *Discourse Processes*, 1-33.

High-Impact Conference Proceedings¹

¹ In computational research (e.g., computational linguistics), conferences are the highest-impact venue for cutting-edge work.

Jones, C. R., **Trott, S.**, & Bergen, B. (2023, June). EPITOME: Experimental Protocol Inventory for Theory Of Mind Evaluation. In *First Workshop on Theory of Mind in Communicating Agents*.

Jones, C. R., Chang, T. A., Coulson, S., Michaelov, J. A., **Trott, S.**, & Bergen, B. (2022). Distributional Semantics Still Can't Account for Affordances. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 44, No. 44). (Acceptance rate: 20.4%)

Trott, S., & Bergen, B. (2022). Can a pressure against homophones explain phonological neighborhoods?. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 44, No. 44). (Acceptance rate: 20.4%)

Trott, S., & Bergen, B. (2021). RAW-C: Relatedness of Ambiguous Words—in Context (A New Lexical Resource for English). *Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th Joint International Conference on Natural Language Processing*. (Acceptance rate: 21.3%)

Trott, S., Torrent, T. T., Chang, N., & Schneider, N. (2020). (Re) construing Meaning in NLP. *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*. (Acceptance rate: 25.2%)

Liebscher, A., Trott, S., & Bergen, B. (2020). Effects of Battle and Journey Metaphors on Charitable Donations for Cancer Patients. In *CogSci*. (Acceptance rate: ~20.4%)

Trott, S., Reed, S., Ferreira, V., Bergen, B. (2019). Prosodic cues signal the intent of potential indirect requests. *Proceedings of the 41st annual meeting of the Cognitive Science Society*. Montreal, Cognitive Science Society. (Acceptance rate: 18.2%)

Pending Articles

Trott, S. (Under Review). Can Large Language Models Help Augment English Psycholinguistic Datasets?

PRESENTATIONS AND PANELS

Conference Presentations

Trott, S., & Bergen, B. (2022). Can a pressure against homophones explain phonological neighborhoods?. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 44, No. 44). (Acceptance rate: 20.4%)

Trott, S., & Bergen, B. (2021). RAW-C: Relatedness of Ambiguous Words—in Context (A New Lexical Resource for English). *Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th Joint International Conference on Natural Language Processing*. (Acceptance rate: 21.3%)

Trott, S., Torrent, T. T., Chang, N., & Schneider, N. (2020). (Re) construing Meaning in NLP. *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*. (Acceptance rate: 25.2%)

Select Posters

Trott, S., Semenuks, A., & Bergen, B. (2019). Sub-morphemic form-meaning systematicity: the impact of onset phones on word concreteness. In *CogSci* (p. 3373).

Trott, S., Rossano, F. (2017). Theoretical Concerns for the Integration of Repair. *AAAI Fall Symposia Series: AI for Human-Robot Interaction*.

Trott, S., Bergen, B. (2017). A Theoretical Model of Indirect Request Comprehension. *AAAI Fall Symposia Series: AI for Human-Robot Interaction*.

Dodge, E., **Trott, S.**, Gilardi, L., & Stickles, E. (2017). *Grammar Scaling: Leveraging FrameNet Data to Increase Embodied Construction Grammar Coverage*. Technical report, AAAI SS-17-02.

Trott, S., Eppe, M., & Feldman, J. (2016). Recognizing Intention from Natural Language : Clarification Dialog and Construction Grammar. *Workshop on Communicating Intentions in Human-Robot Interaction*.

Trott, S., Appriou, A., Feldman, J., & Janin, A. (2015). Natural Language Understanding and Communication for Multi-Agent Systems. *AAAI Fall Symposium*, 137–141.

Invited Talks

Trott, S. (2023). Word meaning is categorical and continuous. *Department of Cognitive Science, UC San Diego* (April 2023).

Trott, S. (2023). Using Large Language Models to understand human cognition. *Cogs 1, Winter 2023*.

Trott, S., Bergen, B. (2018). Mentalizing predicts perspective-taking during indirect request comprehension. *Center for Research in Language*, UC San Diego.

SERVICE AND PROFESSIONAL ACTIVITIES

Department Service:

CSS M.S. Admissions Committee [Winter, 2023]

Statistics Training Assistant [2019 – 2021]

Co-organizer of COGS 200 seminar [Spring, 2019]

Undergraduate Liaison [2018 – 2019]

Ad-Hoc Journal Reviewer

Natural Language Engineering

Proceedings of the National Academy of Sciences

Cognitive Science

Mind and Language

Linguistics Vanguard

Behavior Research Methods

Frontiers in Communication

OTHER WORK EXPERIENCE

Google

Research Intern (6/10/2019 – 9/10/2019)

- Proposed and implemented a system to analyze non-literal language use (e.g., metaphor, construal).
- Probed state-of-the-art language models (BERT) for evidence of construal.
- Wrote a paper for eventual publication in *ACL* (Trott et al, 2020).

Classy

Data Science Intern (6/20/2018 – 9/15/2019)

- Constructed a feature extraction pipeline (e.g., sentiment analysis, topic modeling) for charity campaigns.

- Conducted statistical analyses to predict measures of campaign success.

International Computer Science Institute

Research Assistant (6/2/2014 – 7/16/2016)

- Built an end-to-end system for Natural Language Understanding in a restricted domain.
- Created documentation and published papers about the NLU system in academic conferences (e.g., Trott et al., 2016).