Sean T. Trott

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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

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. (2024). Large Language Models and the Wisdom of Small Crowds. *Open Mind*, *8*, 723-738.

Trott, S. (2024). Can large language models help augment English psycholinguistic datasets? *Behavior Research Methods*, 1-19.

Jones, C., Bergen, B., & **Trott, S.** (2024). Do Multimodal Large Language Models and Humans Ground Language Similarly? *Computational Linguistics*, 1-25.

Zeelenberg, R., Pecher, D., van der Meijden, M. E., **Trott, S.,** & Bergen, B. (2024). Non-native Language Comprehenders Encode Implied Shapes of Objects in Memory. *Cortex*. [IF: 3.2]

Jones, C., **Trott, S**., & Bergen, B. (2024). Comparing Humans and Large Language Models on an Experimental Protocol Inventory for Theory of Mind Evaluation (EPITOME). *Transactions of the Association for Computational Linguistics (TACL)*.

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

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

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

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*.

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

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.

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

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 Proceedings[1]

Shin, H., & **Trott, S.** (2024, June). Do language models capture implied discourse meanings? *The 2024 Meeting of the Society for Computation in Linguistics (SCiL)*.

Jones, C., **Trott, S.**, & Bergen, B. (2024). Does Reading Words Help You Read Minds? In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 46, No. 46).

Yadav, H., **Trott, S.**, & Coulson, S. (2024) Effects of Distributional and Sensorimotor Distance Measures on the EEG during Property Verification. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 46, No. 46).

Jones, C., & **Trott, S.** (2024, May). Multimodal Large Language Models Show Evidence of Embodied Simulation. *The 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation.* Torino, Italy. (Acceptance rate: ~33%)

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%)

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%)

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

Pending Articles

Schoenegger, P., Park, P. S., Karger, E., **Trott, S.,** & Tetlock, P. E. (To Appear). AI-Augmented Predictions: LLM Assistants Improve Human Forecasting Accuracy. *arXiv preprint arXiv:2402.07862*.

Rivière, P. D., Beatty-Martínez, A. L., & **Trott, S.** (Under Review). Bidirectional Transformer Representations of (Spanish) Ambiguous Words in Context: A New Lexical Resource and Empirical Analysis. *arXiv preprint arXiv:2406.14678*.

Ruytenbeek, N. & **Trott, S.** (Under Review). Do prosodic cues convey intent directly or through contrastive marking? A study on French indirect requests.

Trott, S., Walker, D. E., & Coulson, S. (Under Review). Turing Jest: Do Large Language Models have a Sense of Humor?

PRESENTATIONS AND PANELS

Invited Talks

Trott, S. (2024). Large Language Models as Model Organisms—Opportunities and Challenges. *Department of Linguistics Colloquium, UC San Diego*. (November 4, 2024.)

Trott, S. (2024). Large Language Models as Model Organisms—Opportunities and Challenges. *BetterUp Invited Speaker*. (April 2, 2024.)

Trott, S. (2024). Using Large Language Models to understand human cognition. *Weinberg Institute for Cognitive Science, University of Michigan.* (February 19, 2024).

Trott, S. (2024). Do Large Language Models Know What We Know? *COGS 1, Winter 2024*. (January, 2024).

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

Trott, S. (2022). Word meaning is both categorical and continuous. *Department of Cognitive Science, UC San Diego* (April, 2022).

Conference Presentations

Jones, C., Bergen, B., & **Trott, S.** (2024). Do Multimodal Large Language Models and Humans Ground Language Similarly? *Computational Linguistics*, 1-25. (Presented at EMNLP 2024.)

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 and Workshop Presentations

Trott, S., & Rivière, P. D. (2024). Measuring and Modifying the Readability of English Texts with GPT-4. *Third Workshop on Text Simplification, Accessibility, and Readability (TSAR) at EMNLP 2024*.

Arnett, C., Rivière, P., Chang, T., & **Trott, S.** (2024). Different Tokenization Schemes Lead to Comparable Performance in Spanish Number Agreement. In *Special Interest Group on Computational Morphology and Phonology (SIGMORPHON), North American Association for Computational Linguistics (NAACL)*.

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*.

Trott, S., Walker, D. (2023). Do Large Language Models Display the Fundamental Attribution Error? Presented at *Society for Judgment and Decision-Making (SJDM) 2023, in San Francisco, California*.

Trott, S., Semenuks, A., & Bergen, B. (2019). Sub-morphemic form-meaning systematicity: the impact of onset phones on word concreteness. In *The Annual Meeting of the Cognitive Science Society, 2019, Montreal, Canada*.

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

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

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*. Columbia University, New York University.

Trott, S., Appriou, A., Feldman, J., & Janin, A. (2015). Natural Language Understanding and Communication for Multi-Agent Systems. *AAAI Fall Symposium*, 137–141. Arlington, 2017.

TEACHING AND MENTORSHIP

Note: although I develop material for all courses I teach, the "" means that a course design was either entirely re-envisioned or created from scratch.*

Primary Instructor   *2020-Present*
CSS 100*: Advanced Programming for Computational Social Science [Spring, 2024]
COGS 101C: Language [Spring, 2024]
COGS 150*: Large Language Models and Cognitive Science [Winter, 2024]
CSS 2*: Data and Model Programming for Computational Social Science [Winter, 2024]
COGS 153*: Language Comprehension [Fall, 2023]
CSS 1*: Introductory Programming for Computational Social Science [Fall, 2023]
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

2023-2024: Yuhan Fu (Honors student), Kai Bian (Faculty Mentor Program), Alice Li (Faculty Mentor Program), Sydney Taylor (Faculty Mentor Program)

2022-2023: Owen Pi

2021-2022: Monica Van (Honors student), Dan Kaliblotzky

2020-2021: Alex Liebscher (Honors student)

2019-2020: 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 *Proceedings of the Cognitive Science Society*.

ADDITIONAL TRAINING

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

SERVICE AND PROFESSIONAL ACTIVITIES

Service to the Field:
Program Committee Member, *COLING 2025*

Department Service:
CSS Academic Support Lead [Fall, 2023 - *Present*]
CSS Hiring Committee [Fall, 2023]
CSS M.S. Admissions Committee [Winter, 2023; Winter, 2024]
Statistics Training Assistant [2019 – 2021]
Co-organizer of COGS 200 seminar [Spring, 2019]

Journal Reviewer
2024: Research Methods in Applied Linguistics, Empirical Methods in Natural Language Processing (8x), Computational Linguistics, Behavior Research Methods, COLING (5x)
2023: Natural Language Engineering, Proceedings of the National Academy of Sciences
2022: Cognitive Science, Mind and Language, Linguistics Vanguard, Behavior Research Methods, Frontiers in Communication

OTHER PROFESSIONAL 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).