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| BIOGRAPHICAL SKETCH | | | | |
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| NAME  Frank, Michael C. | | POSITION TITLE  Associate Professor of Psychology and, by courtesy, Linguistics | | |
| eRA COMMONS USER NAME  frank.michael | |
| EDUCATION/TRAINING | | | | |
| INSTITUTION AND LOCATION | DEGREE | | MM/YY | FIELD OF STUDY |
| Stanford University | B.S. | | 08/05 | Symbolic Systems |
| Stanford University | B.A. | | 08/05 | Comparative Literature |
| Massachusetts Institute of Technology | Ph.D. | | 07/10 | Brain and Cognitive Sciences |

A. Personal Statement

I am a developmental psychologist interested in the intersection of social cognition and language acquisition. My work uses experimental and computational tools to provide a detailed characterization of both the social input to language learning and the learning mechanisms available to use this input. I am especially interested in using novel experimental methods such as free-viewing eye-tracking and head-mounted camera data to provide information about the social context of children’s word learning. The extra detail afforded by these methods has the promise of providing important data relevant to distinguishing between computational and theoretical proposals. In addition, greater fidelity of measurement may have important clinical applications to social and language disorders such as autism.

B. Positions and Honors

Positions and Employment

2014-Present Associate Professor of Psychology and, by courtesy, Linguistics, Stanford University, Stanford, CA

2010-Present Assistant Professor of Psychology and, by courtesy, Linguistics, Stanford University, Stanford, CA

Other Experience and Professional Memberships

2014-Present MacArthur-Bates Communicative Development Inventory Advisory Board

2010-Present Program Committee, Cognitive Science Society

2006-Present Member, Society for Research in Child Development

2005-Present Member, Cognitive Science Society

2007-2009 Executive board member, Linguistic Society of America

Honors

2014 Kavli Frontiers of Science Fellow

2011 Robert J. Glushko Dissertation Prize, Cognitive Science Society

2011 Association for Psychological Science Rising Star

2005-2010 National Science Foundation Graduate Fellowship

2005-2010 Jacob Javits Fellowship for Graduate Study

2007-2009 Linguistic Society of America Bloch Fellowship

2009 Walle Nauta Award for Continued Dedication to Teaching, MIT BCS

2008 David Marr Prize for Best Student Paper, Cognitive Science Society

2008 Angus MacDonald Award for Excellence in Undergraduate Teaching, MIT BCS

C. Selected Peer-reviewed Publications

Most relevant to the current application

1. Frank, M. C., Goodman, N. D., & Tenenbaum, J. (2009). Using speakers’ referential intentions to model early cross-situational word learning. *Psychological Science, 20,* 578–585.
2. Fletcher-Watson, S., Leekam, S. R., Benson, V., Frank, M. C., & Findlay, J. M., (2009). Eye-movement data reveals attention to social information in autism spectrum disorder. *Neuropsychologia, 47,* 248–257.
3. Frank, M. C., Vul, E., & Johnson, S. P. (2009). Development of infants’ attention to faces during the first year. *Cognition, 110,* 160–170.
4. Frank, M. C., Vul, E., & Saxe, R. (2012). Measuring the development of social attention using free-viewing. *Infancy, 17*, 355-375.
5. Frank, M.C. & Goodman, N. D. (2012). Predicting pragmatic reasoning in language games. *Science, 336*, 998.
6. Shafto, P., Goodman, N., & Frank, M. C. (2012). Learning from others: The consequences of psychological reasoning for human learning. Perspectives in Psychological Science, 7, 341-351.
7. Frank, M. C., Tenenbaum, J. B., & Fernald, A. (2013). Social and discourse contributions to the determination of reference in cross-situational word learning. *Language, Learning, & Development, 9,* 1-24*.*

Additional recent publications of importance to the field

1. Winawer, J., Witthoft, N., Frank, M. C., Wu, L., Wade, A., & Boroditsky, L. (2007). The Russian blues: Effects of language on color discrimination. *Proceedings of the National Academy of Sciences, 108,* 7780–7785.
2. Frank, M. C., Everett, D. L., Fedorenko, E., & Gibson, E., (2008). Number as a cognitive technology: Evidence from Pirahã language and cognition. *Cognition, 108,* 819–824.
3. Frank, M. C., Slemmer, J. A., Marcus, G., & Johnson, S. P. (2009). Information from multiple modalities helps five-month-olds learn abstract rules. *Developmental Science, 12,* 504–509.
4. Frank, M. C., Goldwater, S., Griffiths, T. & Tenenbaum, J. (2010). Modeling human performance in statistical word segmentation. *Cognition, 117,* 107–125.
5. Frank, M. C. & Barner, D. (2011). Representing exact number visually using mental abacus. *Journal of Experimental Psychology: General.*
6. Frank, M. C. & Tenenbaum, J. B. (2011). Three ideal observer models for rule learning in simple languages. *Cognition, 120,* 360-371.
7. Frank, M. C., Fedorenko, E., Saxe, R., Lai, P., & Gibson, E. (2012). Verbal interference suppresses exact numerical representation. *Cognitive Psychology*, 64, 74-92.

D. Research Support

Ongoing Research Support

NIMH #110836 Hardan (PI) 01/14 – 12/15

Pivotal Response Treatment Package for Young Children with Autism

The goal of this investigation is to conduct a randomized controlled trial to examine the efficacy of a pivotal response treatment package (PRT-P), which combines parent training with in-home therapy, in improving language skills in young nonverbal children with autism.

John Merck Scholars Frank (PI) 5/11 – 5/15

Social attention and word learning in typical development and autism spectrum disorders

Support for research using eye-tracking methods for measuring correlations between linguistic and social-cognitive abilities across development.

Role: PI

Dept. of the Navy N00014-13-1-0287 Christopher Potts (PI) 01/13 – 12/15

Grounded Language Understanding as Social Cognition

The goal of this project is to create and test models of pragmatic language processing in simple referential language contexts.

Role: Co-PI

Completed Research Support

Stanford University Bio-X IIP Program Frank (PI) 1/13 – 1/15

Computational Methods for Characterizing Children’s First-person Social Experiences

The goal of this project is to create computer vision tools to analyze data from a head-mounted camera worn by children.

Role: PI

Stanford University School of Medicine Frank (PI) 2/13 – 2/14

Social and Attentional Components of Early Word Learning

This project investigates children’s ability to learn word meanings from social and attentional cues.

Role: PI

Australian Res. Council DP110102506 Mark Johnson (PI) 6/11 – 6/13

Computational models of synergies in human language acquisition

The goal of this project is to create computational models describing tasks in language acquisition (e.g. word segmentation, word learning) where joint inference can help explain human performance.

Role: Partner Investigator

Hellman Faculty Scholars Frank (PI) 9/11 – 9/12

Characterization of children’s social attention via eye-tracking at the San Jose Children’s Discovery Museum

Support for partnership to study social attention at the San Jose Children’s Discovery Museum.

Role: PI

NSF DDRIG 0746251 Edward Gibson (PI) 2/07 – 2/09

Empirical studies and probabilistic models of word segmentation and word learning

Support for dissertation research on models of word learning and word segmentation and comparisons with human learning data.

Role: Co-PI