

# Garrett Honke

PhD Cognitive Neuroscientist  
New Knowledge | Austin, Texas

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## Education

*Binghamton University (SUNY)*

PhD Cognitive and Brain Sciences 2012 - 2017

MSc Cognitive and Brain Sciences 2012 - 2015

*University of Texas at Austin*

BA Psychology 2004 - 2008

## Research Positions

Machine Learning Research Scientist, New Knowledge 2018 - Present

Postdoctoral Research Associate, Binghamton University 2017 - 2018

Co-appointed to the Watson School of Engineering and Applied Science and the Department of Psychology

Graduate Student, Learning and Representation in Cognition Laboratory 2012 - 2017

Director: Dr. Kenneth J. Kurtz; Binghamton University (SUNY)

Graduate Student, Brain and Machine Laboratory 2016 - 2017

Director: Dr. Sarah Laszlo; Binghamton University (SUNY)

Adult Lab Coordinator, Cognition and Language Laboratory 2010 - 2012

Director: Dr. Dedre Gentner; Northwestern University

Research Assistant, Similarity and Cognition Laboratory 2005 - 2007

Director: Dr. Arthur B. Markman; University of Texas at Austin

## Refereed Publications and Presentations

Kurtz, K. J., & Honke, G. (Under Review, [preprint](#)). Sorting out the problem of inert knowledge: Category construction to promote spontaneous transfer. PsyArXiv, 18 Sept. 2017.

Honke, G. & Kurtz, K. J. (2019). Similarity is as Similarity Does? A Critical Inquiry into the Effect of Thematic Association on Similarity. *Cognition*, 186, 115-138.

Azunre, P., Corcoran, C., Dhamani, N., Gleason, J., Honke, G., Sullivan, D., Ruppel, R., Verma, S., & Morgan, J. (2019). Semantic Classification of Tabular Datasets via Character-Level Convolutional Neural Networks. arXiv:1901.08456 [cs.CL].

Gentner, D., Simms, N., Kurtz, K. J., Honke, G., Snoddy, S., Forbus, K. D., Richland, L. E., Matlen, B. J., Lyons, E. M., & Klostermann, E. (2018). Relational Categories: Why they're Important and

How they're Learned. In C. Kalish, M. Rau, T. Rogers, & J. Zhu (Ed.), *Proceedings of the 40<sup>th</sup> annual conference of the Cognitive Science Society* (pp. 27-28). Austin, TX: Cognitive Science Society.

Premo, J., Cavagnetto, A. R., Honke, G., & Kurtz, K. J. (2018). Categories in Conflict: Combating the application of an intuitive conception of inheritance with category construction. *Journal of Research in Science Teaching*, 0, 1-21.

Azunre, P., Corcoran, C., Sullivan, D., Honke, G., Ruppel, R., Verma, S., & Morgan, J. (2018). Abstractive Tabular Dataset Summarization via Knowledge Base Semantic Embeddings. arXiv:1804.01503 [cs.AI].

Honke, G. R., Conaway, N. B., & Kurtz, K. J. (2016). Switch it up: Learning categories via feature switching. In A. Papafragou, D. Grodner, D. Mirman, & J. Trueswell (Eds.), *Proceedings of the 38<sup>th</sup> annual conference of the Cognitive Science Society* (pp. 2693-2698). Austin, TX: Cognitive Science Society.

Gentner, D., Levine, S. C., Ping, R., Isaia, A., Dhillon, S., Bradley, C., & Honke, G. (2016). Rapid learning in a children's museum via analogical comparison. *Cognitive Science*, 40(1), 224-240.

Honke, G., Cavagnetto, A. R., Kurtz, K. J., Patterson, J. D., Conaway, N. B., Tao, Y., & Marr, J. C. (2015). Promoting Transfer and Mastery of Evolution Concepts with Category Construction. Paper presented at the American Educational Research Association annual meeting, Chicago, IL.

Gentner, D., Goldwater, M. B., Levine, S. C., Ping, R. M., Isiah, A., Honke, G., & Bradley, C. (2015). Spatial language and spatial comparison combine to support children's learning. *Cognitive Processing*, 16, S38-S38.

## **Invited Talks, Non-refereed Posters and Presentations**

How I spent my summer vacation: Latin American Coldplay Bots take on MTV's Hottest. A primer on analytics for the detection and investigation of coordinated online disinformation campaigns. Texas Analytics Summit 2018, hosted by the Center for Research Analytics at the McCombs School of Business, University of Texas at Austin.

Kurtz, K. J., Cavagnetto, A. R., Honke, G., Conaway, N. B., Patterson, J. D., Marr, J. C. & Tao, Y. (2014). Optimizing the category construction task to promote learning and transfer of knowledge in classroom instruction. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36<sup>th</sup> Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

Kurtz, K. J., & Honke, G. (2013). Self-generated analogies promote spontaneous transfer. Poster presented at the 54<sup>th</sup> annual meeting of the Psychonomic Society, Toronto, ON.

Honke, G., Gentner, D., Forbus, K., Cohen, C., Chang, M., Lovett, A., & Usher, J. (2012). Using CogSketch to support learning cross-sectional reasoning. Poster presented at the National Science Foundation site visit for the Spatial Intelligence and Learning Center (SILC). Philadelphia, PA.

## **Software**

CatLearn DIVA: the DIVERgent Autoencoder implemented in R (2016). Available as a module in the catlearn R Package for computational modelling of formal psychological theories. Catlearn is a framework and archive for distributed collaboration in formal modeling in psychology. [catlearn.r-forge.r-project.org](http://catlearn.r-forge.r-project.org)

Wills, A. J., Edmunds, C. E., Kurtz, K. J., & Honke, G. A Practical Introduction to Distributed Collaboration for Formal Modeling: A Half-day Tutorial. Tutorial at the 50<sup>th</sup> Annual Meeting of the Society for Mathematical Psychology, University of Warwick, UK.

Catlearn Supplementals. `catlearn.suppls` is an R package that provides a suite of helper functions for cognitive modeling under the `catlearn` framework. [github.com/ghonk/catlearn.suppls](https://github.com/ghonk/catlearn.suppls)

## Teaching

| Course                             | Role                  | Semester    |
|------------------------------------|-----------------------|-------------|
| Research Methods                   | Discussion Instructor | Fall 2017   |
| Statistical Analysis and Design    | Instructor            | Summer 2017 |
| Experiment Psychology: Perception  | Teaching Assistant    | Spring 2017 |
| Cognition Lab                      | Instructor            | Fall 2016   |
| Experimental Psychology: Cognition | Instructor            | Summer 2016 |
| General Psychology                 | Teaching Assistant    | Spring 2016 |
| Perception Lab                     | Instructor            | Fall 2015   |
| Experimental Psychology: Cognition | Teaching Assistant    | Fall 2012   |

## Ad Hoc Reviewing

Acta Psychologica

AutoML

Behavioral Research Methods

Cognitive Science Society

Cognitive Processing

Cognitive Psychology

Journal of Experimental Psychology: Learning, Memory, and Cognition

Psychological Science