

# WAI KEEN VONG

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## EMPLOYMENT

Dec 2016 - present Rutgers University – Newark  
*Postdoctoral Researcher - Cognitive and Data Science Lab*  
Supervisor: Dr. Patrick Shafto

## EDUCATION

2013 - 2018 University of Adelaide  
*Ph.D. in Psychology*  
*Thesis title: From simple to complex categories: How structure and label information guides the acquisition of category knowledge*  
Supervisors: Dr. Danielle Navarro, Dr. Amy Perfors and Dr. Andrew T. Hendrickson

2008 - 2012 University of Adelaide  
*Bachelor of Psychology (First Class Honours)*  
GPA: 6.5/7.0  
Supervisors: Dr. Danielle Navarro and Dr. Amy Perfors

2009 - 2011 University of Adelaide  
*Bachelor of Mathematical and Computer Sciences*  
GPA: 6.4/7.0  
Majors: Pure Mathematics and Computer Science

## OTHER EDUCATION

July 2016 *Summer School in Probabilistic Programming and Machine Learning*, Portland, USA  
February 2016 *Bayesian Estimation of Evidence Accumulation Models Workshop*, Tasmania, Australia  
August 2013 *Bayesian Modeling for Cognitive Science Workshop*, University of Amsterdam, Netherlands

## HONOURS AND AWARDS

2016 *Marr Prize*, Cognitive Science Society  
Awarded to the best student paper at the Cognitive Science conference

2016 *Robert J. Glushko and Pamela Samuelson Foundation Student Travel Grant*, Cognitive Science Society

Awarded for one of the top 20 student papers submitted to the Cognitive Science conference

2014/2016 *Higher Degree Research Assistance Scheme*, School of Psychology, University of Adelaide  
Awarded funding to present research at an international conference

2013 - 2016 *Australian Postgraduate Award*, University of Adelaide  
Scholarship funding for three years to conduct postgraduate research

2010 *Dean's Certificate of Merit*, University of Adelaide  
Awarded for academic excellence

2009/2010 *Summer Research Scholarship*, University of Adelaide  
Awarded over two summers to conduct research in the *Computational Cognitive Science Lab*

## **INVITED TALKS**

December 2017 *Seminar on Concepts and Categories (ConCats)*, New York University.

August 2016 *Computation and Language Lab*, University of Rochester.

August 2016 *Computational Cognitive Neuroscience Lab*, Harvard University.

August 2016 *Seminar on Concepts and Categories (ConCats)*, New York University.

August 2016 *Cognitive and Data Science Lab*, Rutgers University - Newark.

## **TEACHING EXPERIENCE**

2016 Tutor - Doing Research in Psychology (second year psychology course in introductory statistics). Responsibilities included running fortnightly tutorials teaching R and statistics to psychology undergraduates and marking problem sets.  
*School of Psychology, University of Adelaide*

2014 Tutor - Computational Cognitive Science (third year course in computer science). Responsibilities included planning and running weekly tutorials teaching computational modeling in cognitive science, and marking problem sets.  
*School of Computer Science, University of Adelaide*

## **RESEARCH EXPERIENCE**

2013 - 2014 Research Assistant - Worked with John Dunn to develop software in R for performing state trace analysis  
*School of Psychology, University of Adelaide*

2011 - 2012 Research Assistant - Developed software in C++ to help annotate and label images.  
*The Australian Centre for Visual Technologies, University of Adelaide*

2009 - 2012 Research Assistant - Helped schedule and run experiments on multiple projects studying language learning and category learning  
*Computational Cognitive Science Lab, University of Adelaide*

## PUBLICATIONS

1. Yang, S.C-H., Yu, Y., Vong, W.K., & Shafto, P. (in prep). A unifying computational framework for teaching and active learning.
2. Vong, W. K., Hendrickson, A. T., Perfors, A. F. & Navarro, D. J. (in prep). Do additional features help or harm during category learning? The curse of dimensionality in human learners.
3. Vong, W. K., Sojitra, R., Reyes, A., Yang, S. C-H & Shafto, P. (2018). Bayesian teaching of image categories. *Proceedings of the 40th Annual Conference of the Cognitive Science Society*.
4. Yang, S.C-H., Yu, Y., Givchi, A., Wang, P., Vong, W.K., & Shafto, P. (2018). Optimal Cooperative Inference. *Proceedings of the 21st International Conference on Artificial Intelligence and Statistics (AISTATS)*.
5. Vong, W. K., Hendrickson, A. T., Perfors, A. F. & Navarro, D. J. (2016). Do additional features help or harm during category learning? An exploration of the curse of dimensionality in human learners. In A Papafragou, D Grodner, D Mirman and JC Trueswell (Ed.) *Proceedings of the 38th Annual Conference of the Cognitive Science Society* (pp. 2471-2476) **Marr Prize for Best Student Paper**.
6. Vong, W. K., Navarro, D. J. & Perfors, A. F. (2016). The helpfulness of category labels in semi-supervised learning depends on category structure, *Psychonomic Bulletin & Review*, 23, 230-238.
7. Vong, W. K., Perfors, A. F. & Navarro, D. J. (2014). The relevance of labels in semi-supervised learning depends on category structure. In P Bellow, M Guarani, M McShane and B Scassellati (Ed.) *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 1718-1723)
8. Navarro, D. J., Perfors, A. F. & Vong, W. K. (2013). Learning time-varying categories. *Memory & Cognition*, 41, 917-927.
9. Vong, W. K., Hendrickson, A. T., Perfors, A. F. & Navarro, D. J. (2013). The role of sampling assumptions in generalization with multiple categories. In M Knauff, M Pauen, N Sebanz and I Wachsmuth (Ed.) *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (pp. 3699-3704)

## CONFERENCE PRESENTATIONS

1. Sojitra, R., Vong, W.K. & Shafto, P. (2017). The dynamics of visual experiences.  
· Presented as a poster at the *Cognitive Computational Neuroscience Conference* in New York City, USA.
2. Vong, W. K., Hendrickson, A. T., Perfors, A. F. & Navarro, D. J. (2016). Do additional features help or harm during category learning? An exploration of the curse of dimensionality in human learners.  
· Presented as a talk at the *38th Annual Conference of the Cognitive Science Society* in Philadelphia, USA.

3. Vong, W. K., Hendrickson, A. T., Perfors, A. F. & Navarro, D. J. (2016). Learning conceptual structure: How category labels affect learning and generalization in hierarchical and cross-cutting categories
  - Presented as a talk at the *Experimental Psychology Conference* in Melbourne, Australia.
4. Vong, W. K., Hendrickson, A. T., Perfors, A. F. & Navarro, D. J. (2016). Overcoming the curse of dimensionality: How category structure affects the learning of complex categories.
  - Presented as a talk at the *Australian Mathematical Psychology Conference* in Hobart, Australia.
5. Vong, W. K., Hendrickson, A. T., Perfors, A. F. & Navarro, D. J. (2015). When more doesn't help: Learning categories with many features.
  - Presented as a talk at the *Experimental Psychology Conference* in Sydney, Australia.
6. Vong, W. K., Perfors, A. F. & Navarro, D. J. (2014). The relevance of labels in semi-supervised learning depends on category structure.
  - Presented as a talk at the *36th Annual Conference of the Cognitive Science Society* in Quebec City, Canada.
  - Presented as a talk at the *Experimental Psychology Conference* in Brisbane, Australia.
  - Presented as a talk at the *Australian Mathematical Psychology Conference* in Canberra, Australia.
7. Vong, W. K., Hendrickson, A. T., Perfors, A. F. & Navarro, D. J. (2013). The role of sampling assumptions in generalization with multiple categories.
  - Presented as a poster at the *35th Annual Conference of the Cognitive Science Society* in Berlin, Germany.
  - Presented as a talk at the *Experimental Psychology Conference* in Adelaide, Australia.
  - Presented as a talk at the *Australian Mathematical Psychology Conference* in Sydney, Australia.

## SKILLS

*Programming* R, Python, Javascript, HTML/CSS  
*Software* L<sup>A</sup>T<sub>E</sub>X, Emacs, git, Bash

## PROFESSIONAL ASSOCIATIONS

Member of the Cognitive Science Society

Ad-hoc reviewer for: Cognitive Science Conference, American Journal of Psychology