

**Tao Gao**  
**Curriculum Vitae**  
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**Contact Information**

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**Employments**

2017-Present	Assistant Professor	Department of Communication UCLA
2017-Present	Assistant Professor	Department of Statistics UCLA
2015-2017	Research Scientist	Computer Vision Lab GE Global Research
2013-2015	Research Scientist	Center of Brain, Mind & Machine MIT
2011-2013	Post-doctoral Fellow <i>Sponsor: Joshua Tenenbaum</i>	Computational Cognitive Science Group MIT

**Education**

2006-2011	Ph.D.	Cognitive Psychology, Yale University <i>Advisor: Brian Scholl</i>
2004-2006	M.S.	Cognitive Psychology, Zhejiang University <i>Advisor: Mowei Shen</i>
2000-2004	B.S.	Psychology, Zhejiang University

**Research Interests**

- Social Perception
- Cognitive Modeling
- Human-Robot Collaboration
- Artificial Intelligence

**Academic Honors and Awards**

Co-Chair of [Vision Meets Cognition Workshop](#) at  
Computer Vision and Pattern Recognition

2014-2018

Program Chair of Human-Aware AI at the Intl. Joint Conference on Artificial Intelligence	2016
Chair of Physical and Social Scene Understanding Workshop at Cognitive Science Society	2015
New Investigator Award, American Psychological Association, Division 3	2012
James Grossman Dissertation Award, Yale	2011
(For best doctoral dissertation in Psychology)	
Vision Science Society Travel Award	2009

## Manuscripts Under Peer Review

Gao, T., New, J. J., & Scholl, B. J. (under review). Attention to intention: The perceived goals of moving shapes control how they are attended. *Cognition*.

## Peer Reviewed Journal Articles

- Xu, Tang, Zhou, Shen, & Gao, T. (2017). Seeing “what” through “why”: Probing the causal structure of hierarchical motion. *Journal of Experimental Psychology: General*, *146*, 896-909.
- van Buren, B., Gao, T., & Scholl, B. J. (2016). What are the underlying units of perceived animacy?: Chasing detection is intrinsically object-based. *Psychonomic Bulletin & Review*, *24*, 1604-1610.
- Holtzen, S., Zhao, Y., Gao, T., Tenenbaum, J. B., & Zhu, S. C. (2016). Inferring human intent from video by sampling hierarchical plans. In *Intelligent Robots and Systems (IROS)*, IEEE.
- Sun, Z., Wang, Y., Yu, W., Zhang, M., Shui, R., & Gao, T. (2015). How to break representations in visual working memory. *Journal of Experimental Psychology: Human Perception and Performance*, *41*, 1247-1259.
- Langdon, R., McMillan, J., & Gao, T. (2014). Detecting motion signals of intent in schizophrenia. *Psychiatry Research*, *219*, 700-702.
- Lee, S. M., Gao, T., & McCarthy, G. (2014). Attributing intentions to random motion engages the posterior superior temporal sulcus. *Social Cognitive and Affective Neuroscience*, *9*, 81-88.
- Gao, T., Scholl, B. J., & McCarthy, G. (2012). Dissociating the detection of intentionality from animacy in the right posterior superior temporal sulcus. *Journal of Neuroscience*, *32*, 14276-14280.
- Gao, T., Gao, Z., Li, J., Sun, Z., & Shen, M. (2011). The perceptual root of object-based storage: An interactive model of perception and visual working memory. *Journal of Experimental Psychology: Human Perception and Performance*, *37*, 1803-1823.
- Gao, T., & Scholl, B. J. (2011). Chasing vs. Stalking: Interrupting the perception of animacy. *Journal of Experimental Psychology: Human Perception and Performance*, *37*, 669-684.
- Gao, T., McCarthy, G., & Scholl, B. J. (2010). The wolfpack effect: Perception of animacy irresistibly influences interactive behavior. *Psychological Science*, *21*, 1845-1853.
- Gao, T., & Scholl, B. J. (2010). Are objects required for object files?: Roles of segmentation and spatiotemporal continuity in computing object persistence. *Visual Cognition*, *18*, 82-100.
- Gao, T., Newman, G. E., & Scholl, B. J. (2009). The psychophysics of chasing: A case study in the perception of animacy. *Cognitive Psychology*, *59*, 154-179.

- Shen, M., Zhou, J., Gao, T., Liang, J., & Shui, R. (2007). The perceived position of a moving object is not the result of position integration. *Vision Research*, 47, 3088-3099.
- Gao, T., Shen, M., Shui, R., & Gao, Z. (2007). Task set reconfiguration has no effect on the slope of feature search. *Perception & Psychophysics*, 69, 345-352.

## Invited Seminars

- Gao, T. Jointly perceiving physics and intention. Talk given at the [3<sup>th</sup> MURI workshop on Physical and Social Scene Understanding](#), White Mountain, NH, 9/26/2018.
- Gao, T. Visual common sense. Talk given at the Center for Vision, Cognition, Learning, and Autonomy at UCLA, Los Angeles, 5/18/2018.
- Gao, T. Visual roots of social cognition. Talk given at the Visual Neural Science Affinity Group at UCLA, Los Angeles, 3/1/2018.
- Gao, T. Visual roots of social cognition. Talk given at the Department of Cognitive Sciences, Rensselaer Polytechnic Institute, Troy, New York, 2/14/2018.
- Gao, T. Visual roots of social cognition. Talk given at the Department of Computer Science, The State University of New York, Albany, 2/13/2018.
- Gao, T. Human perception of recursive scene parsing. Talk given at the Computational Neuroscience series at UCLA, Los Angeles, 1/24/2018.
- Gao, T. Visual roots of social cognition. Talk given at the Cognitive Forum series at UCLA, Los Angeles, CA, 1/11/2018.
- Gao, T. The Cognitive architecture of social Perception. Talk given at the Social Brain Sciences talk series at Dartmouth College, Hanover, NH, 4/16/2015.
- Gao, T & Zhao, Y. Hierarchical “theory of mind” from videos. Talk given at the annual MURI workshop on Rich Scene Understanding, UCLA, Los Angeles, CA, 12/06/2014.
- Gao, T. Modeling human-like “theory of mind” from Videos. Talk given at the Computer Science Seminar series, University of Massachusetts, Boston, 12/05/2014.
- Gao, T. Theory of mind in real scenes. Talk given at the Vision Meets Cognition Workshop, Columbus, OH, 6/23/2014.
- Gao, T. Understanding social agency in real and artificial scenes. Talk given at the Department of Psychology, Brown University, Providence, RI, 12/6/2013.
- Gao, T. Modeling goals and intentions in real scenes. Talk given at the Center of Brain, Mind and Machine, Harvard University, Cambridge, MA, 10/4/2013.
- Gao, T & Tenenbaum. Simulation for social goal inference. Talk given at the annual MURI workshop on Rich Scene Understanding, UCLA, CA, 9/26/2013.
- Gao, T. Modeling the visual roots of social cognition. Talk given at the Department of Psychology, Rutgers University, New Brunswick, NJ, 4/6/2013.
- Gao, T & Ullman, T. Introducing computational modeling of social cognition. Simons Social Brain Coffee Social, MIT, Cambridge, MA, 3/13/2013.
- Gao, T. Modeling Visual roots of social cognition. Talk given at the Department of Psychology, Cornell University, Ithaca, NY, 12/03/2012.
- Gao, T. Visual roots of social cognition. Talk given at the Vanderbilt Agency Workshop, Nashville, TE, 8/8/2012.

- Gao, T., Baker, C., Tenenbaum, J. Modeling the psychophysics of chasing. Talk given at the Workshop on Modeling the Perception of Intention, Cognitive Science Society, Sapporo, Japan, 8/1/2012.
- Gao, T. (2011). Perceiving animacy and intentionality. Talk given at the Visual Attention Seminar, Harvard Medical School, Cambridge, MA, 7/12/2011.
- Gao, T. (2010). It's Alive! The perception of animate objects. Invited talk given at the Institute of Biophysics, Chinese Academy of Sciences, 8/27/10, Beijing, China.

## Conference Talks

- Gao, T., New, J. J., & Scholl, B. J. (2010). Perceived intentionality controls attentional tracking. Talk given at the annual Object Perception Attention and Memory (OPAM) meeting, 11/18/10, St. Louis, Mo.
- Gao, T., McCarthy & Scholl, B. J. (2010). The wolfpack effect: Perception of animacy irresistibly influences interactive behavior. Talk given at the 7th International Conference on Cognitive Science, 8/20/2010, Beijing, China.
- Gao, T., & Scholl, B. J. (2010). The temporal dynamics of perceived chasing. Talk given at the 6th annual Harvard-Yale Workshop on Social Cognitive Development, 5/14/2010, Boston, MA.
- Gao, T., & Scholl, B. J. (2010). Chasing vs. stalking: Interrupting the perception of animacy. Talk given at the annual meeting of the Vision Sciences Society, 5/11/10, Naples, FL. [Abstract published in *Journal of Vision*, 10(7), 239, <http://journalofvision.org/10/7/239/>.]
- Gao, T., McCarthy, G., & Scholl, B. J. (2009). 'Directionality' as an especially powerful cue to perceived animacy: Evidence from 'wolfpack' manipulations. Talk given at the annual meeting of the Vision Sciences Society, 5/10/09, Naples, FL. [Abstract published in *Journal of Vision*, 9(8), 680a, <http://journalofvision.org/9/8/680/>.]
- Gao, T., McCarthy, G., & Scholl, B. J. (2009). 'Directionality' as an especially powerful cue to perceived animacy: Evidence from 'wolfpack' manipulations. Talk given at the 5th annual Harvard-Yale Workshop on Social Cognitive Development, 4/19/2009, New Haven, CT.
- Gao, T., & Scholl, B. J. (2008). It's alive! The psychophysics of chasing. Talk given at the 4th annual Harvard-Yale Workshop on Social Cognitive Development, 4/26/08, Boston, MA.
- Gao, T., Shen, M., Gao Z., & Li, J. (2007). How representations are constructed in visual working memory. Talk given at the annual Object Perception Attention and Memory (OPAM) meeting, 11/15/2007, Long Beach, CA.

## Peer Reviewed Conference Posters

- Xu, H., Tang, N., Zhou, J., Shui, R., Shen, W., Gao, T. (2018). Perceiving animacy with causal constraints: A "leash resistance" effect in chasing detection. Poster presented at the annual meeting of the Vision Sciences Society, 5/19/18, St. Pete Beach, FL. [Abstract published in [Journal of Vision, 18\(10\), 57](#)]
- Tang, N., Xu, H., Zhou, J., Shui, R., Shen, W., Gao, T. (2018). A causal model of recursive scene parsing in human perception. Poster presented at the annual meeting of the Vision Sciences Society, 5/21/18, St. Pete Beach, FL. [Abstract published in [Journal of Vision, 18\(10\), 750](#)]

- Gao, T., Harari, D., Tenenbaum, J., & Kanwisher (2014). The acuity of joint attention. Poster presented at the annual meeting of the Vision Sciences Society, 5/19/14, St. Pete Beach, FL.
- Gao, T., Baker, C., & Tenenbaum, J. (2013). Attentive Tracking in the perception of animacy: A computational model of "Chasing" vs. "Stalking". Poster presented at the Annual meeting of Psychonomics, 1/14/2013, Toronto, Canada.
- Gao, T., New, J. J., & Scholl, B. J. (2011). Perceived biological agency in a Slithering Snake animation. Poster presented at the annual meeting of the Vision Sciences Society, 5/10/11, Naples, FL. [Abstract published in Journal of Vision, 11(11), 217, [http://journalofvision.org/11/11/217/.](http://journalofvision.org/11/11/217/)]
- Gao, T., Scholl, B. J., & McCarthy, G. (2010). Distinguishing intentionality from animacy in the posterior superior temporal sulcus. Poster presented at the annual meeting of the Society for Neuroscience, 11/16/10, San Diego, CA.
- McCarthy, G., Gao, T., & Scholl, B. J. (2009). Processing animacy in the posterior superior temporal sulcus. Poster presented at the annual meeting of the Vision Sciences Society, 5/13/09, Naples, FL. [Abstract published in Journal of Vision, 9(8), 775a, [http://journalofvision.org/9/8/775/.](http://journalofvision.org/9/8/775/)]
- Gao, T., Newman, G. E., & Scholl, B. J. (2008). The psychophysics of chasing. Poster presented at the annual meeting of the Vision Sciences Society, 5/10/08, Naples, FL. [Abstract published in Journal of Vision, 8(6), 314a, [http://journalofvision.org/8/6/314/.](http://journalofvision.org/8/6/314/)]
- Gao, T., & Scholl, B. (2007). Are objects required for object-files? Poster presented at the annual meeting of the Vision Sciences Society, 5/15/07, Sarasota, FL. [Abstract published in Journal of Vision, 7(9), 916a, [http://journalofvision.org/7/9/916/.](http://journalofvision.org/7/9/916/)]
- Gao, T., & Shen, M. (2004). The efficiency of feature search under dual-task conditions. Poster presented at the 28th International Congress of Psychology, 8/09/04, Beijing, China.

### **Ad Hoc Reviewing: Journals**

*Attention, Perception & Psychophysics*  
*Cognition*  
*Consciousness & Cognition*  
*Experimental Psychology*  
*Journal of Cognitive Neuroscience*  
*Journal of Experimental Psychology: General*  
*Journal of Experimental Psychology: Human Perception and Performance*  
*Journal of Experimental Psychology: Learning Memory and Cognition*  
*Journal of Vision*  
*Visual Cognition*

### **Ad Hoc Reviewing: Conferences**

*Cognitive Science Society*  
*Computer Vision and Pattern Recognition*  
*IEEE Virtual Reality*

## **Ph.D Committee**

2018	Lifeng Fan (Statistics)	Oral Exam
2018	Ruiqi Gao (Statistics)	Oral Exam
2018	Nicholas Baker (Psychology)	Comprehensive Exam
2018	Nijkamp Erik	Written Qualifying Exam
2018	Stephanie Stacy (Statistics)	Written Qualifying Exam
2018	Feng Gao, (Statistics)	Written Qualifying Exam
2018	Xiaofeng, Gao (Statistics)	Written Qualifying Exam
2018	Xu, Xie (Statistics)	Written Qualifying Exam

## **Advising: Postdoctoral Fellows (Primary)**

Haokui Xu (2018 – Present )

Ning Tang (2018 – Present )

## **Advising: Undergraduates (Selected)**

Vaibhav Aggarwal	(Computer Science, Cognitive Science)
Qingyi Zhao	(Computer Science)
Yuanwen Tian	(Electronic Engineering, CCST program)
Rene Hsu	(Cognitive Science, Economics)