Hongjing Lu

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EDUCATION

PhD, 2005	Cognitive Psychology University of California, Los Angeles
MA, 2002	Major: Cognitive Psychology; Minor: Quantitative Psychology University of California, Los Angeles
MS, 2000	Mechatronic Engineering Beijing Institute of Technology
BS, 1997	Mechatronic Engineering Beijing Institute of Technology

EMPLOYMENT

2017	*Departments of Psychology & Statistics, University of California, Los Angeles* **Professor**
2013 – 2017	*Departments of Psychology & Statistics, University of California, Los Angeles* **Associate Professor**
2009 – 2013	*Departments of Psychology & Statistics, University of California, Los Angeles* **Assistant Professor**
2008	*Departments of Psychology, University of California, Los Angeles* **Visiting Assistant Professor**
2007	*Psychology Department, The University of Hong Kong* **Assistant Professor**
2006	*Statistics Department, University of California, Los Angeles* **Postdoctoral Researcher**

RESEARCH AREAS

Bayesian modeling of perception and cognition
Human vision: Action recognition, visual adaptation, perceptual learning
High-level cognition: Causal learning, intuitive physics, analogical reasoning

TEACHING EXPERIENCE

Advanced Statistics (graduate level), Bayesian Statistics, Computing Methods for Psychology
Cognitive Psychology, Quantitative Methods in Cognition, Sensation and Perception;
Director of PhD Specialization in Computational Cognition

HONORS and AWARDS

Fellow of Association for Psychological Science, 2019
Google faculty research awards, 2018
UCLA Psychology Department Service Award, 2018
Computational modeling prize in perception/action, Cognitive Science Society, 2017
UCLA Psychology Department Teaching Award, 2017
The "Best Paper" award from the Journal of Attention, Perception & Psychophysics, 2014
UCLA Faculty Career Development Award, 2010
NSF Early Career Development (CAREER) Award, 2009
International Fellowship from Association of American University Women (AAUW), 2004
CESASC Scholarship, 2004
Chinese National Advanced Science and Technology Award, 2001
Excellent Master Thesis Award, Beijing Institute of Technology, 2000
Chinese Academic Institute Fellowship, 1999

PROFESSIONAL SERVICE

Member

Vision Science Society, Cognitive Science Society, Association for Psychological Science

Editorial Board Member

Psychological Review (2015 – present)
Psychological Science (2012 – 2019)

Ad Hoc Reviewer

Science, Nature Human Behavior, Psychological Review, Psychological Science, Trends in Cognitive Science, Psychological Bulletin & Review, Cognitive Psychology, Cognition, Cognitive Science, Journal of Experimental Psychology: Learning, Memory, and Cognition, Journal of Vision, Vision Research, Spatial Vision, Seeing and Perceiving, Developmental Psychology, Artificial Intelligence in Medicine, Behavioral Brian Research; iPerception; Frontiers in Psychology, Neural Computation; External Review for National Science Foundation (NSF), External review for Competitive Earmarked Research Grant (CERG) from Hong Kong Research Grants Council, External review for Chinese National Science Foundation (CNSF).

Professional Activities

Panelist, NSF Perception, Action and Cognition panel, NSF Science of Learning: collaborative Networks Panel, NSF graduate research fellowship panel
Instructor, Graduate Summer School, Probabilistic Models of Cognition: The Mathematics of Mind (Institute for Pure and Applied Mathematics, UCLA, 2007, 2011)
Organizer, Keck Vision Seminar Series (Department of Psychology, UCLA, 2006)
Instructor, Computer Vision Graduate Summer School (Lotus Hill Institute, Ezhou, China, 2006)

GRANT SUPPORT

MURI (CO-PI, PI Jeff Brantingham)
Title: Learning dynamics and detecting causal pathways in coupled online-offline systems
Dates: 09/01/2022 – 08/31/2027
NSF BCS-2142269 (PI)
Title: A unified theory for perception of physical and social dynamics
Dates: 04/01/2022 – 3/31/2025
Air Force Research Laboratory (PI)
Title: Image-based Analogy by Humans and Machines
Dates: 05/01/2021 – 11/30/2023
NSF IIS-1956441 (Co-PI, Bill Lin, Sanjoy Dasgupta, Guy Van den Broeck)

Title: Collaborative research: Exchanging knowledge beyond data between human and machine learner
Dates: 10/1/20 – 9/30/23

NSF BCS-2022369 (Co-PI, Silvia Bunge, David Kraemer, Keith Holyoak)
Title: Collaborative research: How does the brain represent abstract concepts?
Dates: 9/1/20 – 8/30/23

NSF BCS-1827374 (Co-PI, Alan Yuille, Keith Holyoak)
Title: Achieving analogical reasoning via human and machine learning
Dates: 8/15/18 – 7/31/21

Google faculty research awards (Co-PI, Keith Holyoak)
Title: Human relational reasoning and creativity: experimental and computational studies
Dates: 08/01/18 – 7/31/19

NSF BCS-1655300 (PI)
Title: Discovering hierarchical representations for action understanding
Dates: 08/01/17 – 7/31/21

UCLA Faculty Research Grant (PI)
Title: From perception to abstraction: visual analogy as a mechanism for understanding
Dates: 07/01/16 – 07/1/17

NSF BCS-1353391 (PI)
Title: Understanding biological motion
Dates: 07/01/14 –6/31/17

NSF BCS-0843880 (PI)
Title: CAREER: A Computational investigation into biological motion perception
Dates: 08/01/09 –7/31/14

CART Pilot grant (Co-PI, Martin Monti)
Title: Impact of autism on action perception
Dates: 08/01/13 –7/31/14

Office of Naval Research (Co-I; project PI Keith Holyoak, UCLA)
Title: Analogical reasoning: Integration of neural, behavioral and computational approaches
Dates: 03/01/08 – 12/31/12

UCLA Faculty Research Grant (PI)
Title: Learning and generalization of abstract semantic relations
Dates: 08/01/10 – 07/31/11

Air Force Office of Scientific Research (Co-I; project PI Alan Yuille, UCLA)
Title: Hidden causal structure for reasoning and learning: Human cognition, machine intelligence, and statistics
Dates: 12/01/08 – 11/31/11

UCLA Faculty Research Grant (PI)
Title: Phantom motion aftereffects in global motion perception
Dates: 08/01/09 – 07/31/10

JOURNAL PUBLICATIONS:

(student co-authors in italics)

1. *Yuan*, L., *Gao*, X., *Zheng*, Z., *Edmonds*, M., Wu, Y.N., Rossano, F., **Lu**, H., Zhu, Y. and Zhu, S.C. (2022). In situ bidirectional human-robot value alignment. Science Robotics, 7(68), eabm4183.
2. Holyoak, K. J., *Ichien*, N., & **Lu**, H. (2022). From semantic vectors to analogical mapping. Current Directions in Psychological Science, 09637214221098054.
3. *Chen*, Y. C., Pollick, F., & **Lu**, H. (2022). Aesthetic preferences for causality in biological movements arise from visual processes. Psychonomic Bulletin & Review, 1-9.

4. **Lu**, H., Ichien, N., & Holyoak, K. (2022). Probabilistic analogical mapping with semantic relation networks. *Psychological Review*.
5. *Gao*, X., *Yuan*, L., Shu, T., **Lu**, H., & Zhu, S. C. (2022). Show Me What You Can Do: Capability Calibration on Reachable Workspace for Human-Robot Collaboration. *IEEE Robotics and Automation Letters*.
6. *Ichien*, N., **Lu**, H., & Holyoak, K. J. (2022). Predicting patterns of similarity among abstract semantic relations. Journal of Experimental Psychology: Learning, Memory, and Cognition, 48(1), 108–121. https://doi.org/10.1037/xlm0001010
7. *Akula*, A. R., *Wang*, K., *Liu*, C., Saba-Sadiya, S., **Lu**, H., Todorovic, S., Chia, J., & Zhu, S. C. (2021). CX-ToM: Counterfactual explanations with theory-of-mind for enhancing human trust in image recognition models. *iScience*, 103581.
8. *Peng*, Y., **Lu**, H., & Johnson, S. P. (2021). Infant perception of causal motion produced by human and inanimate objects. *Infant behavior and development*, 64, 101615.
9. *Shu*, T., *Peng*, Y., Zhu, S., **Lu**, H. (2021). A unified psychological space for human perception of physical and social events. *Cognitive psychology*, 128, 101398.
10. Lee, A. L. F, Liu, Z., & **Lu**, H. (2021). Parts beget parts: Bootstrapping hierarchical object representations through visual statistical learning. *Cognition*. 104515.
11. Holyoak, K. J., & **Lu**, H. (2021). Emergence of relational reasoning, *Current Opinion in Behavioral Sciences*. 37:118 – 124.
12. *Peng*, Y., *Lee*, H., *Shu*, T., & **Lu**, H. (2021). Exploring biological motion perception in two-stream convolutional neural networks. *Vision Research*. 178, 28-40.
13. *Chiang*, J. N., *Peng*, Y., **Lu**, H., Holyoak, K. J., & Monti, M. M. (2020). Distributed code for semantic relations predicts neural similarity during analogical reasoning. *Journal of Cognitive Neuroscience*, 1-13.
14. *Baker*, N., **Lu**, H., *Erlikhman*, G., & Kellman, P. (2020). Local features and global shape information in object classification by deep convolutional neural networks*. Vision Research. 172,* 46-61.
15. *Kadambi*, A., *Ichien*, N., *Qiu*, S. & **Lu**, H. (2020).Understanding the visual perception of awkwardness: How greetings go awry. *Attention, Perception, & Psychophysics*. 1-14.
16. *Ichien*, N., **Lu**, H., & Holyoak, K. (2020). Verbal analogy problem sets: an inventory of testing materials. *Behavior Research Methods*. 1-14.
17. *Peng*, Y. *Ichien*, N., & **Lu**, H. (2019). Causal actions enhance perception of continuous body movements. *Cognition*, 194.
18. *Edmonds*, M., *Gao*, F., *Liu*, H., *Xie*, X., *Qi*, S., Rothrock, B., Zhu, Y., Wu, Y. N., **Lu**, H., & Zhu, S. C. (2019). A tale of two explanations: Enhancing human trust by explaining robot behavior. *Science Robotics*, *4*(37).
19. **Lu**, H., Wu, Y, & Holyoak, K. J. (2019). Emergence of analogy from relation learning. *Proceedings of the National Academy of Sciences*, 116, 4176-4181.
20. *Burling*, J. M., *Kadambi*, A., *Safari*, T., & **Lu**, H. (2019). The impact of autistic traits on self-recognition of body movements. *Frontiers in Psychology*, 9: 2687.
21. *Baker*, N., **Lu**, H, *Erlikhman*, G. & Kellman, P. J. (2018). Deep convolutional networks do not classify based on global object shape. *PLoS Computational Biology,* 14(12): e1006613.
22. Keane, B., *Peng*, Y., Demmin, D., Silverstein, S. M., & **Lu**, H. (2018). Intact perception of coherent motion, dynamic rigid form, and biological motion in chronic schizophrenia. *Psychiatry Research*, 268, 53-59.
23. *Shu*, T. *, *Peng*, Y. *, *Fan*, L., **Lu**, H., & Zhu, S. C. (2018). Perception of Human Interaction Based on Motion Trajectories: From Aerial Videos to Decontextualized Animations. *Topics in cognitive science*, *10*(1), 225-241. *Equal contributors.
24. *Burling,* J., & **Lu**, H. (2018). Categorizing coordination from the perception of joint actions. *Attention, Perception, & Psychophysics.*80: 7-13.

25. *Su*, J., & **Lu**, H. (2017). Flash-lag effects in biological motion interact with body orientation and action. *Vision Research*. 140, 13-24.
26. *Kubricht*, J. R., **Lu**, H., & Holyoak, K. J. (2017). Intuitive physics: current research and controversies. *Trends in cognitive sciences*. 21(10), 749-759.
27. **Lu**, H., Tjan, B. S., & Liu, Z. (2017). Human efficiency in detecting and discriminating biological motion. *Journal of Vision*. 17(6):4, 1-14.
28. *Peng*, Y., *Thurman,* S., & **Lu**, H. (2017). Causal action: a fundamental constraint on perception and inference with body movements. *Psychological Science,* 28(6), 789-807.
29. *Ye*, T., *Qi*, S., *Kubricht*, J., *Zhu*, Y., **Lu**, H., Zhu, SC. (2017). The Martian: examining human physical judgments across virtual gravity fields. *IEEE Transactions on Visualization and Computer Graphics*, 23(4), 1399-1408.
30. *Kubricht*, J., **Lu**, H., & Holyoak, K. J. (2017). Individual differences in spontaneous analogical transfer. *Memory & Cognition*, 45, 576-588.
31. van Boxtel, J., *Peng*, Y., *Su*, J., & **Lu**, H. (2017). Individual differences in high-level biological motion tasks. *Vision Research*. 141, 135-144
32. *Chen*, D., **Lu**, H., & Holyoak, K. J., (2017). Generative inferences based on learned relations. *Cognitive Science*, 41, 1062-1092.
33. *Su*, J., van Boxtel, J. A., & **Lu**, H. (2016). Social interactions receive priority to conscious perception. *PLoS ONE*, 11(8). doi: 10.1371/journal.pone.0160468
34. *Thurman*, S.M., van Boxtel, J. J. A, Monti, M. M., *Chiang*, J. N., & **Lu**, H. (2016). Neural adaptation in pSTS correlates with perceptual aftereffects to biological motion and with autistic traits. *NeuroImage,* 136: 146-61. doi: 10.1016/j.neuroimage.2016.05.015.
35. *Powell,* D*., Merrick,* A., **Lu**, H., & Holyoak, K. J. (2016). Causal competition based on generic priors. *Cognitive Psychology*, 86, 62-86.
36. van Boxtel, J., Dapretto, M., & **Lu**, H. (2016). Intact recognition, but attentuated adaptation, for biological motion in youth with autism spectrum disorder. *Autism Research,* 9(10), 1103-1113.
37. *Thurman*, S. & **Lu**, H. (2016). A comparison of form processing involved in the perception of biological and non-biological movements. *Journal of Vision*, 16(1):1, 1-16.
38. *Thurman*, S. & **Lu**, H. (2016). Revisiting the importance of common body motion in human action perception. *Attention, Perception & Psychophysics*, 78(1), 30-36.
39. **Lu**, H., Rojas, R. R., Beckers, T., & Yuille, A. L. (2016). A Bayesian theory of sequential causal learning and abstract transfer. *Cognitive Science*, 40, 404-439.
40. van Boxtel, J. & **Lu**, H. (2015). Joints and their relations as critical features in action discrimination: Evidence from a classification image method. *Journal of Vision*, 15(1), 1-17.
41. *Thurman*, S., & **Lu**, H. (2014). Perception of social interactions for spatially scrambled biological motion. *PLOS ONE*, 9(11), 1-12.
42. *Chen*, D., **Lu**, H., & Holyoak, K. J. (2014). The discovery and comparison of symbolic magnitudes. *Cognitive Psychology*, *71*, 27-54.
43. *Thurman*, S. M., & **Lu**, H. (2014). Bayesian integration of position and orientation cues in perception of biological and non-biological forms. *Frontiers in Human Neuroscience*, 8: 91, 1-21.
44. *Lee*, A. L. F., & **Lu**, H. (2014). Global-motion aftereffect does not depend on awareness of the adapting motion direction. *Attention, Perception, & Psychophysics, 76*(3),766-779. **"Best paper" award**.
45. *van Boxtel*, J., & **Lu** , H. (2013). A biological motion toolbox for reading, displaying and manipulating motion capture data in research settings. *Journal of Vision, 13*(12), 1-16.
46. *Van Boxtel*, J. & **Lu**, H. (2013). Impaired global, and compensatory local, biological motion processing in people with high levels of autistic traits. *Frontiers in Psychology, 4*:209, 1-10.
47. *Keane*, B., **Lu**, H., Papathomas, T., Silverstein, S., & Kellman, P. (2013). Reinterpreting behavioral receptive fields: Lightness induction alters visually completed shape. *PLOS ONE, 8*(6), 1-11.

48. *Carroll*, C., Cheng, P., & **Lu**, H. (2013). Inferential dependencies in causal inference: A comparison of belief-distribution and associative approaches. *Journal of Experimental Psychology: General*, *142*(3), 845-863.
49. *Thurman*, S. M., & **Lu**, H. (2013). Physical and biological constraints govern perceived animacy of scrambled human forms. *Psychological Science, 24,* 1133-1141.
50. *van Boxtel*, J., & **Lu**, H. (2013). General commentary: A predictive coding perspective on autism spectrum disorders. *Frontiers in Psychology, 4*:19. doi: 10.3389/fpsyg.2013.00019.
51. *Thurman*, S. M. & **Lu**, H. (2013). Complex interactions between spatial, orientation and motion cues for biological motion perception across visual space. *Journal of Vision, 13*(2), 1-18.
52. **Lu,** H., *Chen*, D., & Holyoak, K. J. (2012). Bayesian analogy with relational transformations. *Psychological Review*, *119*(3), 617-648.
53. *van Boxtel*, J., & **Lu**, H. (2012). Signature movements lead to efficient search for threatening actions. *PLoS ONE*, 7(5): e37085, 1-6. doi:10.1371/journal.pone.0037085
54. *Lee*, A. L. F, & **Lu**, H. (2012). Two forms of aftereffects induced by transparent motion reveal multilevel adaptation. *Journal of Vision*, *12*(4), 1-13.
55. *Keane*, B. P., **Lu**, H., Papathomas, T. V., Silverstein, S. M., & Kellman, P. J. (2012). Is interpolation cognitively encapsulated? Measuring the effects of belief on Kanizsa shape discrimination and illusory contour formation. *Cognition*, *123*, 404-418.
56. *van Boxtel*, J., & **Lu**, H. (2011). Visual search by action category. *Journal of Vision, 11*(7), 1-14.
57. Holyoak, K. J., & **Lu**, H. (2011). What the Bayesian framework has contributed to understanding cognition: Causal learning as a case study. *Behavioral and Brain Sciences*, 34, 203-204.
58. *Huang*, X., **Lu**, H., Zhou, Y., & Liu, Z. (2011). General and specific perceptual learning in radial speed discrimination. *Journal of Vision*, *11*(4), 1-11.
59. **Lu**, H. (2010). Structural processing in biological motion perception. *Journal of Vision*, *10*(12), 1-13.
60. *Lee*, A., & **Lu**, H. (2010). A comparison of global motion perception using a multiple-aperture stimulus. *Journal of Vision*, *10*(4), 1-16.
61. Holyoak*, K. J., *Lee**, H. S., & **Lu***, H. (2010). Analogical and category-based inference: A theoretical integration with Bayesian causal models. *Journal of Experimental Psychology: General*, *139*(4), 702-727. *equal contribution.
62. **Lu**, H., & Liu, Z. (2009). When a never-seen but less-occluded image is better recognized: Evidence from same-different matching experiments and a model. *Journal of Vision*, *9*(4), 1-12.
63. **Lu**, H., & Liu, Z. (2008). When a never-seen but less-occluded image is better recognized: Evidence from old-new memory experiments. *Journal of Vision*, *8*(7), 1-9.
64. **Lu**, H., Yuille, A., Liljeholm, M., Cheng, P. W., & Holyoak, K. J. (2008). Bayesian generic priors for causal learning. *Psychological Review*, *115*(4), 955-984.
65. Keane, B., **Lu**, H., & Kellman, P. (2007). Classification images reveal spatiotemporal contour interpolation. *Vision Research*, *47*, 3460-75.
66. Huang, X., **Lu**, H., Tjan, B., Zhou, Y., & Liu, Z. (2007). Motion perceptual learning: When only task-relevant information is learned. *Journal of Vision*, *7*(10), 1-10.
67. **Lu**, H., & Liu, Z. (2006). Computing dynamic classification images from correlation maps. *Journal of Vision*, *6*(4), 475-483.
68. **Lu**, H., Tjan, B., & Liu, Z. (2006). Shape recognition alters sensitivity in stereoscopic depth discrimination. *Journal of Vision*, *6*(1), 75-86.
69. **Lu**, H., Morrison, R. G., Hummel, J. E., & Holyoak, K. J. (2006). Role of gamma-band synchronization in priming of form discrimination for multi-object displays. *Journal of Experimental Psychology: Human Perception and Performance, 32*, 610-617.
70. Hou, F., **Lu**, H., Zhou, Y., & Liu, Z. (2006). Amodal completion impairs stereo acuity discrimination. *Vision Research*, *46*(13), 2061-2068.
71. **Lu**, H., Zavagno, D., & Liu, Z. (2006). The glare effect does not give rise to a longer lasting afterimage. *Perception*, *35*(5), 701-707.

72. **Lu**, H., Qian, N., & Liu, Z. (2004). Learning motion discrimination with suppressed MT. *Vision Research*, *44*, 1817-1825.
73. Jiar, Y., **Lu**, H., Xu, A., & Liu, W. (2000). Fish-eye lens camera calibration for stereo vision system. *Chinese Journal of Computer Science*, *23*, 1215-1219.
74. Jiar, Y., **Lu**, H., & Liu, W. (2000). Fish-eye lens camera stereo vision for dense depth map recovery. *Chinese Journal of Computer Science*, *23*, 1332-1336.
75. **Lu**, H., & Jiar, Y. (2000). Dense depth image recovery using multi-baseline stereo system. *Journal of Beijing Institute of Technology*, *20*, 69-72.
76. **Lu**, H., & Jiar, Y. (1998). High resolution depth image recovery using multi-baseline stereo system. *Chinese Journal of Robotics*, *20*, 460-464.

CONFERENCE PROCEEDING PAPERS & BOOK CHAPTERS

(student co-authors in italics)

1. *Fu*, S., Holyoak, K. J., & **Lu**, H. (2022). From vision to reasoning: Probabilistic analogical mapping between 3D objects. In J. Culbertson, A. Perfors, H. Rabagliati, & V. Ramenzoni (Eds.), *Proceedings of the 44th Annual Meeting of the Cognitive Science Society. Cognitive Science Society*.
2. *Ichien*, N., *Alfred*, K. L., *Baia*, S., Kraemer, D. J. M., Bunge, S. A., **Lu**, H., & Holyoak, K. J. (2022). Relation representations in analogical reasoning and recognition memory. In J. Culbertson, A. Perfors, H. Rabagliati, & V. Ramenzoni (Eds.), Proceedings of the 44th Annual Meeting of the Cognitive Science Society. Cognitive Science Society.
3. *Ichien*, N., *Kan*, A., Holyoak, K. J., & **Lu**, H. (2022). Generative inferences in relational and analogical reasoning: A comparison of computational models. In J. Culbertson, A. Perfors, H. Rabagliati, & V. Ramenzoni (Eds.), Proceedings of the 44th Annual Meeting of the Cognitive Science Society. Cognitive Science Society.
4. *Ionescu*, A., **Lu**, H., Holyoak, K. J., & Sandhofer, C. M. (2022). Children's acquisition of the concept of antonym across different lexical classes. In J. Culbertson, A. Perfors, H. Rabagliati, & V. Ramenzoni (Eds.), Proceedings of the 44th Annual Meeting of the Cognitive Science Society. Cognitive Science Society.
5. *Linford*, B., *Ichien*, N., Holyoak, K. J., & **Lu**, H. (2022). Impact of semantic representations on analogical mapping with transitive relations. In J. Culbertson, A. Perfors, H. Rabagliati, & V. Ramenzoni (Eds.), Proceedings of the 44th Annual Meeting of the Cognitive Science Society. Cognitive Science Society.
6. *Snefjella*, B., *Ichien*, N., Holyoak, K. J., & **Lu**, H. (2022). Predicting human judgments of relational similarity: comparison of computational models based on vector representations of meaning. In J. Culbertson, A. Perfors, H. Rabagliati, & V. Ramenzoni (Eds.), Proceedings of the 44th Annual Meeting of the Cognitive Science Society. Cognitive Science Society.
7. *Zhang,* I. Y., Fu, S., **Lu**, H. (2022). Causal versus Associative Relations: Do Humans Perceive and Represent Them Differently? In J. Culbertson, A. Perfors, H. Rabagliati, & V. Ramenzoni (Eds.), Proceedings of the 44th Annual Meeting of the Cognitive Science Society. Cognitive Science Society.
8. *Ichien*, N., *Liu*, Q., Fu, S., Holyoak, K. J., Yuille, A., & **Lu**, H. (2021). Visual analogy: deep learning versus compositional models. *Proceedings of the 43rd Annual Meeting of the Cognitive Science Society*. Cognitive Science Society.
9. *Chen*, Y., Pollick, F., & **Lu**, H. (2021). Aesthetic experience is influenced by causality in biological movements. *Proceedings of the 43rd Annual Meeting of the Cognitive Science Society*. Cognitive Science Society.
10. *Priniski*, J.H., Mokhberian, N., Harandizadeh, B., Morstatter, F., Lerman, K., **Lu**, H., Brantingham, P.J. (2021), Mapping Moral Valence of Tweets Following the Killing of George Floyd. *6th International Workshop on Social Sensing*.

11. *Schorn*, J. M., **Lu**, H., & Knowlton, B. J. (2020) Contextual Interference Effect in Motor Skill Learning: An Empirical and Computational Investigation. *Proceedings of the 42nd Annual Meeting of the Cognitive Science Society*. Cognitive Science Society.
12. *Edmonds*, M., *Ma*, X., *Qi*, S., *Zhu*, Y., **Lu**, H., & Zhu, S. C. (2020). Theory-based causal transfer: Integrating instance-level induction and abstract-level structure learning. *In Proceedings of the AAAI Conference on Artificial Intelligence*, 34, 1283-1291.
13. *Zhang*, C., *Jia*, B., *Gao*, F., Zhu, Y., **Lu**, H., & Zhu, S. C. (2019). Learning perceptual inference by contrasting. In *Advances in Neural Information Processing Systems*, 1073-1085.
14. *Shu*, T., *Peng*, Y, **Lu,** H. & Zhu, S. (2019). Partitioning the perception of physical and social events with a unified psychological space. *Proceedings of the 41st Annual Meeting of the Cognitive Science Society*. Montreal, Canada: Cognitive Science Society.
15. *Edmonds*, M., *Qi*, S., *Zhu*, Y., *Kubricht*, J., Zhu, S., & **Lu**, H. (2019). Decomposing human causal leanring: bottom-up associative learning and top-down schema reasoning. *Proceedings of the 41st Annual Meeting of the Cognitive Science Society*. Montreal, Canada: Cognitive Science Society.
16. *Kadambi*, A. & **Lu**, H. (2019). Individual differences in self-recognition from body movements. *Proceedings of the 41st Annual Meeting of the Cognitive Science Society*. Montreal, Canada: Cognitive Science Society.
17. **Lu**, H., *Liu*, Q., *Ichien*, N., Yuille, A., & Holyoak, K. (2019). Seeing the meaning: vision meets semantics in solving pictorial analogy problems. *Proceedings of the 41st Annual Meeting of the Cognitive Science Society*. Montreal, Canada: Cognitive Science Society.
18. *Peng*, Y., *Ichien*, N., & **Lu**, H. (2019). Perception of continuous movements from causal actions. *Proceedings of the 41st Annual Meeting of the Cognitive Science Society*. Montreal, Canada: Cognitive Science Society.
19. *Baker*, N., *Erlikhman*, G., Kellman, P., & **Lu**, H. (2018). Deep convoutional networks do not perceive illusory contours. *Proceedings of the 40th Annual Meeting of the Cognitive Science Society*. Madison, WI: Cognitive Science Society.
20. *Peng*, Y., *Javangula*, R., **Lu**, H. & Holyoak, K. (2018). Behaviroal oscillations in verification of relational role bindings. *Proceedings of the 40th Annual Meeting of the Cognitive Science Society*. Madison, WI: Cognitive Science Society.
21. *Kubricht*, J., & **Lu**, H. (2018). Physical and causal judgments for objects collisions depend on relative motion. *Proceedings of the 40th Annual Meeting of the Cognitive Science Society*. Madison, WI: Cognitive Science Society.
22. *Edmonds*, M.*,Kubricht*, J., Summers, C., *Zhu*, Y., Rothrock, B., Zhu, S. C., & **Lu**, H. (2018). Human causal transfer: Challenges for deep reinforcement learning. *Proceedings of the 40th Annual Meeting of the Cognitive Science Society*. Madison, WI: Cognitive Science Society.
23. *Wang*, D., *Kubricht*, J., *Zhu*, Y., *Liang*, W., Zhu, S. C., Jiang, C., & **Lu**, H. (2018). Spatially Perturbed Collision Sounds Attenuate Perceived Causality in 3D Launching Events. In *IEEE Conference on Virtual Reality and 3D User Interfaces*.
24. *Shu*, T.*, *Peng*, Y.*, *Fan*, L., **Lu**, H. & Zhu, S., (2017). Inferring human interaction from motion trajectories in aerial videos. *Proceedings of the 39th Annual Meeting of the Cognitive Science Society*. London, UK: Cognitive Science Society. *Equal contributors. **Computational modeling prize in Perception/Action from the Cognitive Science Society.**
25. *Kubricht*, J.*, *Zhu*, Y. *, Jiang, C. *, Terzopoulos, D., Zhu, S., & **Lu**, H. (2017). Consistent probabilistic simulation underlying human judgment in substance dynamics. *Proceedings of the 39th Annual Meeting of the Cognitive Science Society*. London, UK: Cognitive Science Society. *Equal contributors.
26. *Lin*, J., *Zhu*, Y., *Kubricht*, J., Zhu, S., & **Lu**, H. (2017). Visuomotor adaptation and sensory recalibration in reversed hand movement task. *Proceedings of the 39th Annual Meeting of the Cognitive Science Society*. London, UK: Cognitive Science Society.

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