

Education

- **Ph.D. in Psychology**, University of Illinois at Urbana-Champaign (UIUC) Aug 2019 – present
- **M.S. in Psychological Science**, UIUC Aug 2017 - May 2019
- **M.S. in Advertising**, UIUC Aug 2015 - May 2017
- **B.S. in Psychology**, Central China Normal University, China March 2013 - Jun 2015
- **B.A. in Advertising**, Wuhan University, China Sep 2011 – Jun 2015

Skillsets

- Programming: **Python** | **R** | **MATLAB** | **JavaScript** | **SQL**
- Software: **PowerBI** | **Adobe Photoshop** | **Adobe Premier** | **SPSS**
- Research: **Experimentation** | **Eye-tracking** | **Survey design** | **Qualitative research** | **Data analysis and visualization** | **Computational modeling** | **Machine Learning**
- Statistics: **Hypothesis testing** | **Model fitting and comparison** | **Cross validation** | **Confirmatory & Exploratory Factor Analysis** | **Hierarchical Linear Modeling**

Publications

- **Xu, Z.J.**, Buetti, S., Xia, Y., Lleras, A. (under review) Skills and Attitudes Predict Performance in Difficult Search. *Attention, Perception, & Psychophysic.*
- Lleras, A., Buetti, S., & **Xu, Z. J.** (2022). Incorporating the properties of peripheral vision into theories of visual search. *Nature Reviews Psychology*, 1-15.
- **Xu, Z. J.**, Lleras, A., Shao, Y., & Buetti, S. (2021). Distractor-distractor interactions in visual search for oriented targets explain the increased difficulty observed in non-linearly separable conditions. *Journal of Experimental Psychology: Human Perception and Performance*, 47(9), 1274.
- **Xu, Z. J.**, Lleras, A., & Buetti, S. (2021). Predicting how surface texture and shape combine in the human visual system to direct attention. *Scientific reports*, 11(1), 1-13.
- Lleras, A., Wang, Z., Ng, G. J. P., Ballew, K., **Xu, J.**, & Buetti, S. (2020). A target contrast signal theory of parallel processing in goal-directed search. *Attention, Perception, & Psychophysics*, 1-32.
- Buetti, S., **Xu, J.**, & Lleras, A. (2019). Predicting how color and shape combine in the human visual system to direct attention. *Scientific Reports*, 9(1), 1-11.

Publications in Preparation

- **Xu, J.**, Buetti, S., & Lleras, A. (in preparation). Examine linear separability in color space. Target journal: *Journal of Experimental Psychology: Human Perception and Performance*.
- **Xu, J.**, Lleras, A., & Buetti, S. (in preparation). Does visual distinctiveness from an unexpected feature dimension facilitate search? Target journal: *Journal of Experimental Psychology: Human Perception and Performance*.
- Buetti, S., **Xu, J.**, Tan, H., Shao, Y., & Lleras, A. (in preparation). Search speed in color space is a linear function of color distance: evidence against feature-boosting and prioritization theories of attention. Target journal: *Psychological Science*

Published Abstracts in International Conferences

- **Xu, Z. J., Lleras, A., Hummel, J. E., & Buetti, S. (2023, May).** Does visual distinctiveness from an unexpected feature dimension facilitate search? Poster presented at the Annual Meeting of the Vision Sciences Society (VSS).
- **Xu, Z. J., Lleras, A., Hummel, J. E., & Buetti, S. (2022, May)** Distractor heterogeneity as the cause of the linear separability effect. Poster presented at VSS.
- **Tan, H. J., Buetti, S., Xu, Z. J., Lleras, A. (2022, May)** Testing feature boosting theories of visual attention in the color dimension using online experiments. Poster presented at VSS.
- **Xu, Z. J., Ng, G., Lleras, A., Hummel, J. E., & Buetti, S. (2021, May)** How does multidimensional complexity impact processing efficiency in visual search. Poster presented at VSS.
- **Xu, J., Lleras, A., & Buetti, S. (2020, November).** A new prediction-based approach to study visual search and attention. Poster presented at the Annual Meeting of the Psychonomic Society.
- **Buetti, S., Shao, Y., Xu, J., & Lleras, A. (2020 May).** Re-examining the linear separability effect in visual search for oriented targets. Poster presented at VSS.
- **Xu, J., Lleras, A., & Buetti, S. (2020 May).** How texture and shape distinctiveness combine in the visual system to guide attention? Poster presented at VSS.
- **Xu, J., Ballew, K., Lleras, A., & Buetti, S. (2019, May).** Do people's visual ability skill predict search efficiency under difficult search conditions? Poster presented at VSS.
- **Ballew, K., Xu, J., Lleras, A., & Buetti, S. (2019, May).** An individual differences investigation of the relationship between visuospatial working memory capacity and inefficient search. Poster presented at VSS.
- **Yang, B., Xu, J., Zhang, F., Buetti, S. (2019, April)** Does time perception of emotional events vary across Asian and Westerner participants? Poster presented at UIUC undergraduate research symposium.
- **Xu, J., Lleras, A., & Buetti, S. (2018, May).** Is there a relationship between object recognition ability and visual search efficiency? Poster presented at VSS.
- **Lleras, A., Xu, J., & Buetti, S. (2018, May).** How do differences across visual features combine to determine visual search efficiency in parallel search? Poster presented at VSS.

Invited Talks

- **Xu, J. (2023, October).** Target-distractor distinctiveness guides efficient search. Talk given at Bionic Vision Lab joint lab meeting at UCSB.
- **Xu, J., Lleras, A., Hummel, J. E., & Buetti, S. (2023, April).** How do color and shape guide visual search under different instruction conditions? Talk given at Attention & Perception (A&P) Brown Bag at Psychology Department, UIUC.
- **Xu, J., Lleras, A., Hummel, J. E., & Buetti, S. (2022, April).** Examining the Linear Separability Effect in Orientation and Color spaces. Talk given at A&P Brown Bag.
- **Xu, J., Lleras, A., & Buetti, S. (2020, October).** How do visual features combine to direct attention? Talk given at A&P Brown Bag.
- **Xu, J., Lleras, A., & Buetti, S. (2020, March).** How do differences across visual features combine to determine visual search efficiency in parallel search? Talk given at Cognitive Brown Bag.
- **Xu, J., Lleras, A., & Buetti, S. (2020, February)** Do people's visual abilities predict their search efficiency? Talk given at A&P Brown Bag.
- **Buetti, S., Xu, J., & Lleras, A. (2019, April).** How do differences across visual features combine to determine visual search efficiency in parallel search? Talk given at A&P Brown Bag.
- **Xu, J., Lleras, A., & Buetti, S. (2018, April)** Predicting visual search efficiency. Talk given at A&P Brown Bag.

Additional Research Experience in Advertising

Master Thesis – Cultural Difference on Placebo Effects Elicited by Pharmaceutical Ads

- Designed experiments, collected and analyzed data, authored the paper investigating cultural differences in people's processing of pharmaceutical ad and reaction of placebo effect.

Do Cohorts Matter for Social Media Use? A Comparison of Millennial and Baby-Boomer Social Media Use

- Designed and conducted qualitative research with the class to investigate whether and how millennials and baby-boomers use and perceive social media differently.
- Project was ranked No.1 by the client, Senior Vice President of Research at Starcom Media.

Professional Experience

Esports Team, NVIDIA

February, 2023 – present

Collaborator

- Designing and programming behavioral psychophysical experiments, collecting and analyzing data to investigate the differences in central and peripheral visual search abilities between action video game players and non-players.

Vision Lab, UIUC

August, 2019 – July, 2023

PhD Research Assistant

- Research: designing and programming, data collection, analysis, and computational modeling, and preparing report on series of behavioral and eye-tracking experiments of an NSF funded project studying the role of peripheral vision in search behavior.
- Lab management: training undergraduates research assistants, managing ethical compliance documents, arranging cash advances for paid studies.

Psychology Department, UIUC

August, 2022 – May, 2023

PhD Teaching Assistant

- Prepared class slides, gave lectures 3 days/week, graded assignments and held office hours for PSYC100 Introduction to Psychology course for 2 semesters.

Abbott Nutrition

October, 2017-May, 2019

Emerging Issue Tracking Intern & Public Health and Social Media Engagement Intern

- Used PowerBI to develop Competitor Intelligence dashboard to track competitors' clinical research, and Emerging Issue Alerting dashboard to track food safety crises.
- Developed public health policy and social media strategy decks for Abbott Nutrition in 2018-2019.

China HIV/AIDS Information Network (CHAIN)

October, 2016-January 2017

Volunteer & Translator

- Translated and summarized the Key Population Investment Fund application materials.
- Translated the book "The Remaking of Social Contracts" to Chinese, Chapter 8-10.

Honors & Awards

- Dissertation Completion Fellowship, UIUC, 2023-2024
- Psychology Department Conference Presentation Award, UIUC, 2022
- Graduate Award for Excellence in Psychological Science, UIUC, 2019
- Academic Achievement Scholarship, Wuhan University, 2012-2013
- Excellence Creative Award at the Fifth College Students' Advertising Art Competition, 2012-2013