Zekun Sun

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Academic Appointment

Postdoctoral Associate   **Yale University**
Advisor: Samuel McDougle   2023–present

Education

Ph.D. Psychological and Brain Sciences   **Johns Hopkins**
Advisor: Chaz Firestone   2019–2023
  − Thesis: "Cognitive consequences of visual complexity"

M.A. Psychological and Brain Sciences   **Johns Hopkins**
Advisor: Chaz Firestone   2017–2019

M.S. Cognitive Neuroscience   **Chinese Academy of Sciences**
Advisor: Jin-yan Wang   2013–2016
  − Thesis: "Investigation of pain-related attentional bias and its regulations"

LL.B International Politics   **Nanjing University**
                                                                   2009–2013

Publications

- **Sun, Z.**, Han, S., Firestone, C. (in press). Caricaturing shapes in visual memory. *Psychological Science*

- **Sun, Z.**, Firestone, C. (2022). Beautiful on the inside: The relationship between skeletal complexity and aesthetics. *Perception*, 51(12), 904-918.

- **Sun, Z.**, Firestone, C. (2022). Speaking and seeing: How verbal "description length" encodes visual complexity. *Journal of Experimental Psychology: General*, 151, 82–96.

- **Sun, Z.**, Firestone, C. (2021). Curious objects: How visual complexity guides attention and engagement. *Cognitive Science*, 45(4), e12933.

- **Sun, Z.**, Firestone, C. (2020). Optimism and pessimism in the predictive brain. *Trends in Cognitive Sciences*, 24, 683-685.

- **Sun, Z.**, Firestone, C. (2020). The dark room problem. *Trends in Cognitive Sciences*, 24, 346-348.

- Fan, L., Sun, Y. B., **Sun, Z.K.**, Wang, N., Luo, F., Yu, F., Wang, J. Y. (2018). Modulation of auditory sensory memory by chronic clinical pain and acute experimental pain: a mismatch negativity study. *Scientific Reports*, 8(1), 1-13.

- **Sun, Z.K.**, Wang, J.-Y. and Luo, F. (2016). Experimental Pain Induces Attentional Bias That Is Modified by Enhanced Motivation: An Eye Tracking Study. *European Journal of Pain*, 20(8), 1266-1277.

Manuscripts in preparation

- **Sun, Z.**, Firestone, C., Hafri, A. How to build a scene: Relational representations are constructed in a canonical order.

- **Sun, Z.**, Yu, Q. How to look unique.

- **Sun, Z.**, Firestone, C. Cognitive consequences of visual complexity.

CONFERENCE PRESENTATIONS

- Sun, Z., Hafri, A., & Firestone, C. (May 2023). How to build a scene: Relational representations are constructed in a canonical order. **Poster** presented at the 23nd Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL.

- Han, S., Sun, Z., & Firestone, C. (May 2023). Caricaturing shape in visual memory. **Poster** presented at the 23nd Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL.

- Sun, Z., Yu, Q., & Firestone, C. (May 2022). How to look unique. **Poster** presented at the 22nd Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL.

- Hafri, A., Sun, Z., & Firestone, C. (May 2022). Sequential construction of visual relations. **Poster** presented at the 22nd Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL.

- Sun, Z., & Firestone, C. (November 2021). The evolution of complexity in visual memory. **Poster** presented at the 29th annual meeting for Object Perception, Attention, and Memory, Online.

- Yu, Q., & Sun, Z. (November 2021). Looking Unique. **Talk** given at the 29th annual meeting for Object Perception, Attention, and Memory, Online.

- Sun, Z., Han. S., & Firestone, C. (May 2021). The evolution of complexity in visual memory. **Talk** given at the 21th annual meeting of the Vision Sciences Society, Online

- Sun, Z., & Firestone, C. (June 2020). The simple and the beautiful: An aesthetic preference for medially complex stimuli. **Poster** given at the 20th annual meeting of the Vision Sciences Society, Online

- Halberda, J., Yu, Q., Sun, Z., & Firestone, C. (June 2020). Not too simple, not too complex: The Goldilocks principle drives discrimination and search. **Poster** presented at the 20th Annual Meeting of the Vision Sciences Society, Online

- Sun, Z., & Firestone, C. (November 2019). Speaking about seeing: How verbal descriptions encode visual complexity. **Talk** given at the 27th annual meeting of Object Perception, Attention, and Memory, Montreal, Canada.
  — **Award of Best Talk**

- Sun, Z., & Firestone, C. (May 2019). Speaking about seeing: How verbal descriptions encode visual complexity. **Poster** presented at the 19th Annual Meeting of the Vision Sciences Society, St. Pete Beach, FL.
  — **Travel Award**

- Sun, Z., & Firestone, C. (May 2018). Curious objects: Preattentive processing of object complexity. **Talk** given at the 18th annual meeting of the Vision Sciences Society, St. Pete Beach, FL.

HONORS AND AWARDS

- **G. Stanley Hall's Scholar Award** 2022
  - Annual award to a graduate student who has demonstrated exceptional scholarly progress in dissertation research, Johns Hopkins

- **Clark Collaborative Award** 2021

– Award to students who initiate cross-lab collaborative projects
  The complexity of coding, Johns Hopkins

- **The Mary Ainsworth Award**   2021
    - Annual award to an outstanding female student, Johns Hopkins

- **The Robert S. Waldrop Junior Investigator's Award**   2019
    - Annual award to a graduate student who has demonstrated
      exceptional scholarly progress in pre-dissertation graduate research, Johns Hopkins

- **OPAM Best Talk Award**   2019
    - Talk given at the annual meeting of Object Perception, Attention, and Memory, Montreal

- **Elsevier/Vision Research Travel Award**   2019
    - The 19th annual meeting of Vision Science Society, St. Pete Beach, FL

- **Collaborative Research Award**   2018
    - Department award to support a project of Goldilocks principle in memory, Johns Hopkins

- **Graduate Student Award**   2015; 2016
    - Chinese Academy of Sciences

Invited Talks

- The Action, Cognition and Thinking Lab, Yale University   2022.06.09
- Behrmann Lab, Carnegie Mellon University   2022.04.27
- The Computational Vision and Learning Lab, University of California, Los Angeles   2022.04.15
- The Language and Cognition Lab, Stanford University   2022.01.11
- Cognitive Tools Lab, University of California, San Diego   2021.10.06
- The Computation and Language Lab, University of California, Berkeley   2021.10.05

Teaching

- **Real World Human Data (TA)**   Spring 2020
  Johns Hopkins University
- **Methods in Experimental Psychology (TA)**   Fall 2019
  Johns Hopkins University
- **Introduction to Cognitive Psychology (TA)**   Spring 2019
  Johns Hopkins University
- **Introduction to Social Psychology (TA)**   Fall 2018
  Johns Hopkins University

Skills

- **Programming**
  Python, JavaScript, Matlab, R
- **Analysis**
  behavioral data, eye tracking data, fMRI data

Training

- **Summer School**
  Neuromatch Academy - Computational Neuroscience
  (Interactive track)

Service

Early Career Colloquium Selection Committee — Johns Hopkins
Student organizer — Fall 2020

Summer Internship Program — Johns Hopkins
Mentor, Vision Group — Summer 2019
- Project: Shape bias and complexity bias
- Mentee: Subin Han, Cognitive Science Department, JHU

Department Colloquium Committee — Johns Hopkins
Student organizer — Fall 2019

Ad hoc reviewer

- *Attention, Perception, and Psychophysics*
- *Synthese*
- *Philosophical Transactions of the Royal Society B*
- *Journal of Experimental Psychology: Human Perception and Performance*
- *Journal of Cognitive Neuroscience*