

ACADEMIC APPOINTMENT

Postdoctoral Associate

Advisor: Samuel McDougle

Yale University

2023–present

EDUCATION

Ph.D. Psychological and Brain Sciences

Advisor: Chaz Firestone

Johns Hopkins

2019–2023

– Thesis: “Cognitive consequences of visual complexity”

M.A. Psychological and Brain Sciences

Advisor: Chaz Firestone

Johns Hopkins

2017–2019

M.S. Cognitive Neuroscience

Advisor: Jin-yan Wang

Chinese Academy of Sciences

2013–2016

– Thesis: “Investigation of pain-related attentional bias and its regulations”

LL.B International Politics

Nanjing University

2009–2013

PUBLICATIONS

- **Sun, Z.** (under revision). Beauty in a dark room: Aesthetic experience through the lens of predictive processing.
- **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 23rd 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 23rd 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

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

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

Student organizer

Johns Hopkins

Fall 2020

Summer Internship Program

Mentor, Vision Group

Johns Hopkins

Summer 2019

– Project: Shape bias and complexity bias

– Mentee: Subin Han, Cognitive Science Department, JHU

Department Colloquium Committee

Student organizer

Johns Hopkins

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*