Vladislav (Vlad) Ayzenberg
(215) 514-4314
vayzenb@temple.edu
http://www.vlad-lab.com

Positions and Education

Temple University, Philadelphia, PA
Assistant Professor, Psychology and Neuroscience Department, 2025-Present

University of Pennsylvania, Philadelphia, PA
MindCORE and DDDI postdoctoral fellow, Psychology Department, 2023-2025
Advisor: Michael Arcaro

Carnegie Mellon University, Pittsburgh, PA
Postdoctoral fellow, Neuroscience Institute, 2020-2023
Advisor: Marlene Behrmann

Emory University, Atlanta, GA
Ph.D., Psychology: Cognition and Development, Spring 2020
Advisor: Stella F. Lourenco

Temple University, Philadelphia, PA
B.A., Psychology, Spring 2012
Advisor: Nora Newcombe

Honors and Awards

University of Pennsylvania, MindCORE Postdoctoral Fellowship	2023-Present
University of Pennsylvania, Data Driven Discovery Initiative (DDDI) Postdoctoral Fellowship	2023-Present
Vision Sciences Society (VSS) Vision Research Travel Award	2020, 2022
Emory University Professional Development Support (PDS) Competitive Research Award	2019-2020
MIT Center for Brains, Minds, and Machines (CBMM) Summer Course Scholarship	2018
Mechanisms of Learning, NIH T32 Graduate Fellowship	2016-2019
NSF Graduate Research Fellowship (GRFP) Honorable Mention	2016
Emory Facility for Education and Research in Neuroscience (FERN) Research award	2015
Psi Chi Honors Society	2008-2012
Temple University Admission Scholarship	2008

Publications

Mentees in italics

Ayzenberg, V., *Sener, S.B., Novick, K.,* & Lourenco, S. F. (2025). Fast and robust visual object recognition in young children. *Science Advances.* 11(27), eads6821.

Ayzenberg, V., & Song. C., Arcaro, M.J. (2025). An intrinsic hierarchical, retinotopic organization of visual pulvinar connectivity in the human neonate. *Current Biology*. 35(2), 300-314.

Thieu, M. K., **Ayzenberg, V.,** & Lourenco, S. F., & Kragel, P. A. (2024). Visual looming is a primitive for human emotion. *iScience*, *27*(6).

Ayzenberg, V., & Behrmann, M. (2024). Development of visual object recognition. *Nature Reviews Psychology,* 1-18.

Liu, Y., **Ayzenberg, V.,** Lourenco, S.F. (2024). Object geometry serves humans' intuitive physics of stability. *Scientific Reports*, *14(1), 1701.*

Ayzenberg, V., Granovetter, M., Robert, S.H., Patterson, C., & Behrmann, M. (2023). Differential functional reorganization of ventral and dorsal visual pathways following childhood hemispherectomy. *Developmental Cognitive Neuroscience,* 101323.

Ayzenberg, V., & Behrmann, M. (2023). Reply to Goodale and Milner: The where, what, and how of object recognition. *Trends in Cognitive Sciences*.

Ayzenberg, V., *Simmons, C.,* & Behrmann, M. (2023). Temporal asymmetries and interactions between dorsal to ventral visual pathways during object recognition. *Cerebral Cortex Communications, 4*(1), tgad003.

Ayzenberg, V., & Behrmann, M. (2023). Reply to Xu: An expanded neural framework for shape perception. *Trends in Cognitive Sciences*.

Ayzenberg, V., & Behrmann, M. (2022). Does the brain's ventral visual pathway compute object shape? *Trends in Cognitive Sciences, 26*(12), 1119-1132.

Ayzenberg, V., & Lourenco, S.F. (2022). Perception of an object's global shape is best described by a model of skeletal structure in human infants. *eLife*, *11*, e74943.

Ayzenberg, V., & Behrmann, M. (2022). The dorsal visual pathway represents object-centered spatial relations for object recognition. *Journal of Neuroscience*, *42*(23), 4693-4710.

Ayzenberg, V., Kamps, F.S., Dilks, D.D., Lourenco, S.F. (2022). Skeletal representations of shape in the human visual cortex. *Neuropsychologia,* 108092.

Ayzenberg, V., & Lourenco, S. F. (2020). A network for geometric representations: Relations between navigation, analog magnitude, and object analysis. *Cognitive Development*, 56, 100951.

Ayzenberg, V., & Lourenco, S. F. (2019). Skeletal descriptions of shape provide unique perceptual information for object recognition*. Scientific Reports, 9,* 1-13.

*Top 100 most downloaded neuroscience articles of 2019 in Scientific Reports

*Featured in *Scientific American*, *Futurity*

Ayzenberg, V., Chen, Y., *Yousif, S.R.*, & Lourenco, S. F. (2019). Skeletal representations of shape in human vision: Evidence for a pruned medial axis model*. Journal of Vision, 19*, 1-21.

Ayzenberg, V., *Hickey, M*., & Lourenco, S. F. (2018). Pupillometry reveals the physiological underpinnings of the aversion to holes. *PeerJ*, *6*, e4185.

*Featured in *Futurity, IFL Science, Inverse*

Lourenco, S., Aulet, L., **Ayzenberg, V.**, Cheung, C., & Holmes, K. (2017). Right idea, wrong magnitude system. [Commentary on Leibovich et al.]. *Behavioral and Brain Sciences, 40,* E177.

Holmes, K. J., **Ayzenberg, V.**, & Lourenco, S. F. (2016). Gamble on gaze: Eye movements reflect the numerical value of blackjack hands. *Psychonomic Bulletin & Review*, *23,* 1974-1981.

Lourenco, S.F., **Ayzenberg, V.**, & *Lyu, J*. (2016). A general magnitude system in human adults: Evidence from a subliminal priming paradigm. *Cortex. 81*, 91-103.

Cheung, C.-N., **Ayzenberg, V.,** Diamond, R. F. L., *Yousif, S.R.*, & Lourenco, S. F. (2015). Probing the mental number line: A between-task analysis of spatial-numerical associations. In Noelle, D. C., Dale, R., Warlaumont, A. S., Yoshimi, J., Matlock, T., Jennings, C. D., & Maglio, P. P. (Eds.), *Proceedings of the 37th Annual Meeting of the Cognitive Science Society* (pp. 357-362). Austin, TX: Cognitive Science Society.

Preprints and Manuscripts in Progress

Mentees in italics

Chin, J., Wyburd, M., **Ayzenberg**, **V.,** Bayet, L., Bilgic, B., Chen, E., Chen, Y., Dineen, A., Fujita., S., Liu, J., Jun, Y., Camacho, C., & Zollei, L. (under review). Deep learning as a model of development. *To Appear in a Special Issue of Developmental Cognitive Neuroscience.*

Ayzenberg, V., & Bayet, L. (in prep). *Developmental trajectories as a new target for evaluating the biological plausibility of deep learning models.*

Ayzenberg, V., & Arcaro, M.J. (in prep). *The building blocks of vision: Evidence for a hierarchical, retinotopic organization in the human neonate brain.*

Simmons, C., **Ayzenberg, V.,** Behrmann, M., (in prep). *Network architecture of object perception: Investigating the interactions between dorsal and ventral visual pathways.*

Ayzenberg, V., *Kubert, J*., Dilks, D.D., & Lourenco, S. F. (in prep). *The dorsal visual pathway facilitates viewpoint invariant object recognition.*

Ayzenberg, V., *Nag, S., Krivoshik, A*., & Lourenco, S. F. (2021). Spatial and featural cue weighting in children's developing object representations. *PsyArxiv*.

Invited Talks

Stanford University, Ellis lab meeting (April, 2025): *The building blocks of visual cognition: Cortical and subcortical organization of the newborn visual system.*

Princeton University, Thalamus Conte Center (April, 2025): *The building blocks of visual cognition: Cortical and subcortical organization of the newborn visual system.*

University of Birmingham, New Methods in Developmental Neuroscience Workshop (December, 2023): *Early developing mechanisms underlying visual object categorization.*

Stanford University, Developmental brown bag (October, 2023): *Early developing mechanisms underlying visual object categorization.*

New York University, He lab meeting (September, 2023): *Early developing mechanisms underlying visual object categorization.*

The George Washington University, Cognitive Neuroscience brown bag (September, 2022): *Unique contributions of skeletal structure to shape perception and object recognition.*

Yale University, Yildrim lab meeting (March, 2022): *The dorsal visual pathway represents object-centered spatial relations for object recognition.*

University of Toronto, Walther lab meeting (February, 2022): *Unique contributions of skeletal structure in shape perception and object recognition*.

Yale University, Turk-Browne lab meeting (May, 2019): *Unique contributions of skeletal structure in shape perception and object recognition*

Carnegie Mellon University, Visual Cognition group lab meeting (May, 2019): *The importance of medial axis structure in three-dimensional object recognition.*

Emory University, Neuroscience and Animal Behavior seminar (January, 2018): *The role of medial axis structure in three-dimensional object recognition.*

Temple University, Research in Spatial Cognition seminar (July, 2014): *Gamble on gaze: Eye position reflects quality of blackjack hands.*

Temple University, Temple Undergraduate Research Forum (May, 2012): *Early spatial interactions during video game play.*

Mentorship

Allan Schneider, PhD Student (2025-Current)
Claire Simmons, MD/PhD Student (2022-Current)
Vishal Patel, Research Assistant (2021-2022); *Current position: Post-bac researcher at the NIH*
Rafael Cocchi, Research Assistant (2021-2022); *Current position: Research coordinator at Yale University*
Kylee Novick, Research Assistant (2018-2022); *Current position: Lab manager at Emory University*
Jessica Kubert, Honors Student (2016-2020); *Current position: Lab manager at Emory University*
Bahar Sener, Research Assistant (2017-2019); *Current position: PhD student at the University of Washington*
Amy Krivoshik, Honors Student (2015-2017); *Current position: Law student at the University of Wisconsin*
Samoni Nag, Research Assistant (2015-2016); *Current position: PhD student at the George Washington University*
Meghan Hickey, Honors Student (2014-2016); *Current position: Med Student at the University of Massachusetts*
Adi Rosenthal, Honors Student (2015-2016); *Current position: PhD student at the University of Colorado*
Sami Yousif, Honors Student (2014-2016); *Current position: Postdoc at the University of Pennsylvania*

Mentee Awards

Rafael Cocchi, Summer Program for Undergraduate Research (SPUR)	2021
Jessica Kubert, Independent Research Grant Award	2019
Amy Krivoshik, Independent Research Grant Award	2017
Samoni Nag, Scholarly Inquiry Research Experience (SIRE) Fellowship	2016
Meghan Hickey, Scholarly Inquiry at Emory (SIRE) Fellowship	2016
Adi Rosenthal, Summer Undergraduate Research Experience (SURE) Fellowship	2015
Sami Yousif, Scholarly Inquiry at Emory (SIRE) Fellowship	2015

Teaching Experience

Cognition, *Teaching Assistant*	2020
Graduate Seminar on Number Perception, *Guest Lecturer*	2019
Cognitive Development, *Teaching Assistant*	2019
Perception and Action, *Teaching Assistant*	2018
Introduction to Psychology, *Teaching Assistant*	2017
Experimental Methods in Psychology, *Graduate Instructor*	2016
Child Development, *Teaching Assistant*	2015

Professional Activities and Affiliations

ECR: Core National Science Foundation (NSF) Grant Review Panel, *Panelist*	2024
Emory Mechanisms of Learning Conference, *Conference Organizer*	2017-2018
Spatial Cognition Lab, *Lab Manager*	2012-2014
Temple Infant and Child Lab, *Research Assistant*	2011-2012
Spatial Intelligence Lab, *Research Assistant*	2010-2011

Memberships

Vision Sciences Society, Cognitive Development Society, International Congress on Infant Studies, Cognitive Science Society, Society for Research in Child Development

Ad-Hoc Reviewing

Nature Communications, Psychological Science, iPerception, Neuron, Journal of Social Cognitive and Affective Neuroscience, Journal of Neuroscience, Annual Reviews of Vision Science, Developmental Psychobiology, NeuroImage, Cognition, Cognitive Psychology, Journal of Affective Disorders

Selected Conference Presentations

Mentees in italics

Simmons, C., **Ayzenberg, V.,** & Behrmann, M. (2025, May). Network architecture of object recognition: Investigating integration between dorsal and ventral visual pathways. Poster presented at the annual meeting of the Vision Sciences Society (VSS).

Ayzenberg, V., & Arcaro, M.J. (2024, September). The building blocks of vision: Cortical and subcortical organization of the newborn visual system. Talk presented at the annual meeting of the Fetal, Infant, and Toddler Neuroimaging Group (FIT'NG).

Ayzenberg, V., & Behrmann, M. (2023, May). An expanded neural framework for shape perception. Talk presented at the annual meeting of the Vision Sciences Society (VSS).

Patel, V., **Ayzenberg, V.**, & Behrmann, M. (2022, May). Behavioral evidence for object-based spatial relations in the dorsal pathway. Poster presented at the annual meeting of the Vision Sciences Society (VSS).

Ayzenberg, V., & Behrmann, M. (2022, May). The dorsal pathway represents object-centered spatial relations for object recognition. Poster presented at the annual meeting of the Vision Sciences Society (VSS).

Liu, Y., **Ayzenberg, V.,** Lourenco, S.F. (2022, April). Children, adults, and machines use the geometric centroids of objects to judge physical stability*.* Poster presented at the biannual meeting of the Cognitive Development Society (CDS).

Ayzenberg, V., & Lourenco, S. F. (2021, May). One-shot categorization of object in human infants. Poster presented at the annual meeting of the Vision Sciences Society (VSS).

Ayzenberg, V., *Sener, S.B.*, & Lourenco, S. F. (2020, May). Core object recognition in young children: Mechanistic insight from neural networks. Talk presented at the annual meeting of the Vision Sciences Society (VSS).

Ayzenberg, V., & Lourenco, S.F. (2019, October). The shape skeleton supports single exemplar categorization in infants. Poster presented at the biannual meeting of the Cognitive Development Society (CDS).

Ayzenberg, V., & Lourenco, S.F. (2018, September). Unique contributions of medial axis structure in three-dimensional object recognition. Poster presented at the annual conference on Cognitive Computational Neuroscience (CCN).

Ayzenberg, V., *Nag, S.*, & Lourenco, S.F. (2016, May). The origins and early development of cue combination. Poster presented at the biennial meeting of the International Conference on Infant Studies (ICIS).

Nag, S., **Ayzenberg, V.**, *Yousif, S.R.*, & Lourenco, S.F. (2016, May). Target detection within a two-dimensional shape: A test of the medial axis model of object recognition. Poster presented at the annual meeting of the Vision Sciences Society (VSS).

Rosenthal, A., **Ayzenberg, V.**, Hunley, S.B., & Lourenco, S.F. (2016, May). Evolutionary-based threat modulates infants' predictive tracking of visual stimuli. Poster presented at the annual meeting of the Vision Sciences Society (VSS).

Ayzenberg, V., *Yousif, S.R.*, & Lourenco, S.F. (2016, May). The medial axis as a robust model of object representation. Poster presented at the annual meeting of the Vision Sciences Society (VSS).

Hickey, M., **Ayzenberg, V.**, & Lourenco, S.F. (2016, May). Can pupillometry dissociate fear and disgust? Trypophobia as a test case. Poster presented at the annual meeting of the Vision Sciences Society (VSS).

Yousif, S.R., **Ayzenberg, V.**, & Lourenco, S.F. (2016, May). Spatial memory demands modulate shape representations. Poster presented at the annual meeting of the Vision Sciences Society (VSS).

Ayzenberg, V., Longo, M.R., & Lourenco, S.F. (2015, May). Evolutionary-based threat modulates perception of looming visual stimuli in human infants. Poster presented at the annual meeting of the Vision Sciences Society (VSS).

Yousif, S.R., **Ayzenberg, V.**, & Lourenco, S.F. (2015, May). Reorientation in three-dimensional space: Is distance the key. Poster presented at the annual meeting of the Vision Sciences Society (VSS).

Ayzenberg, V., Harris, J., & Newcombe, N. (2012, March). Early spatial interactions during video game play. Poster presented at the Eastern Psychological Association (EPA) conference.