

Sean P. Anderson

Palo Alto, CA

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Education

Stanford University

Ph.D. in Psychology

Palo Alto, CA

Sep 2023–Present

University of Michigan

M.S. in Computer Science and Engineering

Ann Arbor, MI

Sep 2021–Dec 2022

University of Michigan

B.S. in Cognitive Science, with Highest Honors and High Distinction (Top 10%)

Ann Arbor, MI

Sep 2016–Aug 2020

University of Michigan

B.M. in Performance (French Horn), with Highest Honors

Ann Arbor, MI

Sep 2016–Aug 2020

Grants & Fellowships

- 2026 **Pockets of Joy Grant**, Stanford Arts Institute
Stay in/out of the pocket: Improvised music
- 2026 **Student Project for Intellectual Community Enhancement Award**, Office of the Vice Provost for Graduate Education, Stanford University
Stanford Computational Cognitive Science Reading Group
- 2025 **Student Affinity Group Grant**, Stanford Institute for Human-centered Artificial Intelligence
Stanford Computational Cognitive Science Reading Group
- 2025 **Student Project for Intellectual Community Enhancement Award**, Office of the Vice Provost for Graduate Education, Stanford University
Stanford Computational Cognitive Science Reading Group
- 2024 **Norman H. Anderson Research Fund**, Department of Psychology, Stanford University
CogSci
- 2023 **Graduate Research Fellowship**, National Science Foundation
- 2022 **William R. and Flora Hewlett Foundation Conference Travel Grant**, University of Michigan - Rackham
Int'l Conference on Computational Creativity
- 2022 **Student Registration Scholarship**, Association for Computational Creativity
Int'l Conference on Computational Creativity
- 2019 **Student Travel Award**, National Academy of Sciences
Arthur M. Sackler Colloquium
- 2019 **Conference Travel Grant**, Weinberg Institute for Cognitive Science, University of Michigan
CogSci, ICCM/MathPsych
- 2019 **Conference Travel Grant**, Weinberg Institute for Cognitive Science, University of Michigan
NeurIPS
- Winter 2019 **CogSci Student Fellowship**, Weinberg Institute for Cognitive Science, University of Michigan
- Summer 2018 **CogSci Student Fellowship**, Weinberg Institute for Cognitive Science, University of Michigan
- Winter 2018 **CogSci Student Fellowship**, Weinberg Institute for Cognitive Science, University of Michigan
- Fall 2017 **CogSci Student Fellowship**, Weinberg Institute for Cognitive Science, University of Michigan
- Summer 2017 **CogSci Student Fellowship**, Weinberg Institute for Cognitive Science, University of Michigan
- 2016 **Board of Regents Merit Scholarship**, University of Michigan

Academic Honors

- 2021 **Arthur Miller Creative Arts Award**, University of Michigan
1/9 prizes for exceptional honors theses in liberal arts
- 2021 **Samuel D. Epstein Award**, Weinberg Institute for Cognitive Science, University of Michigan
Outstanding honors thesis in theoretical cognitive science
- 2021 **James B. Angell Scholar**, University of Michigan
Seven consecutive terms of all A's
- 2019 **Research Spotlight (web)**, Weinberg Institute for Cognitive Science, University of Michigan
- 2016–2020 **University Honors**, University of Michigan

Research Experience

Cognitive and Data Science Lab

Rutgers University–Newark

Research Assistant

Sep 2020–Aug 2023

Mentors: Prof. Patrick Shafto, Dr. Scott Cheng-Hsin Yang

Studied human and machine cooperation in projects such as DARPA XAI (conference paper), DARPA ASIST (poster), and explanations of RL systems, drawing upon the cognitive science of cooperative communication.

The Cognitive Foundations of Social Minds

University of Michigan

Research Assistant

Jul 2021–Aug 2023

Mentors: Prof. Richard Lewis, Dr. Max Kleiman-Weiner

Modeled foraging and hunting behavior of bonobos and chimpanzees in a virtual Unity environment, leading to a co-authored publication in *Journal of Comparative Psychology*.

Undergraduate Research Experience

Cognition, Control, and Action Lab

University of Michigan

Research Assistant

May 2017–Aug 2020

Mentors: Prof. Taraz G. Lee

Implemented and analyzed experiments in motor learning, leading to a first-author publication in *Journal of Neurophysiology* on motivation and knowledge in skilled motor performance.

Generative Linguistics and Music Project

University of Michigan

Research Assistant

Sep 2019–Aug 2020

Mentors: Prof. Somangshu Mukherji

Honors Thesis title: A linguistic model of minimalist syntax composes *tebe poem*

Drawing on Minimalist generative linguistics, I built a computational model of Western tonal harmony that recovered the underlying structure of Bortniansky's *Tebe poem*. I presented my award-winning honors thesis in a public-facing talk to artists interested in data science.

Language and Cognitive Architecture Lab

University of Michigan

Research Assistant

Jun 2019–Sep 2019

Mentors: Prof. Richard Lewis, Dr. Pyeong Whan Cho

Designed tools for simulating probabilistic context-free grammars (PCFG) to investigate how we process sentences while reading.

Laboratory of Dr. Chandra Sripada

Research Assistant

Mentors: Prof. Chandra Sripada

For an fMRI study on spontaneous thought and the default-mode network, I developed methods for removing extraneous noise from in-scanner speech recordings.

University of Michigan

Jun 2018–Dec 2018

Music Theory @ Michigan Institute for Data Science Project

Research Assistant

Mentors: Prof. René Rusch

Analyzed tonal structures in German part-song from the nineteenth century.

University of Michigan

Sep 2018–Dec 2018

Publications

JOURNAL ARTICLES

Rapport Munro, E., Koopman, S. E., Anderson, S. P., Schweller, K., Röhr, H., Kleiman-Weiner, M., Lewis, R., Klein, B., Allritz, M., Robinson, L. M., Dolins, F. L., & Call, J. (2025). Chimpanzees (*Pan troglodytes*) and bonobos (*Pan paniscus*) chase prey around obstacles in virtual environments. *Journal of Comparative Psychology*. Advance online publication. doi: <https://dx.doi.org/10.1037/com0000402>

Anderson, S. P., Adkins, T. J., Gary, B. S., & Lee, T. G. (2020). Rewards interact with explicit knowledge to enhance skilled motor performance. *Journal of Neurophysiology*, 123(6), 2476–2490. doi: <https://doi.org/10.1152/jn.00575.2019>

CONFERENCE PROCEEDINGS

Anderson, S. P., Yang, J., Bowers, M. L., Wong, L., and Fan, J. E. (2026). What reusable shortcuts do people propose when solving assembly problems? In *Proceedings of the 48th Annual Meeting of the Cognitive Science Society*. Rio de Janeiro, Brazil.

McCarthy, W.P., Anderson, S. P., Fan, J. E. (2024, July). How does assembling an object affect memory for it? In *Proceedings of the 46th Annual Meeting of the Cognitive Science Society*. Rotterdam, Netherlands.

Folke, T., Yang, S. C.-H., Anderson, S., & Shafto, P. (2021, April). Explainable AI for medical imaging: explaining pneumothorax diagnoses with Bayesian teaching. In *Proceedings SPIE 11746, Artificial Intelligence and Machine Learning for Multi-Domain Operations Applications III* (p. 117462J). International Society for Optics and Photonics. doi: <https://doi.org/10.1117/12.2585967>

Invited Talks

Anderson, S. P. (2021, October). When is machine learning not enough? Capturing common structures across music and language. Presented at “Building equitable ecologies of artificial intelligence and machine learning: A mini-symposium with artists & data scientists,” Data Science and Machine Learning for Artists Workshop. Ann Arbor, Michigan.

Presentations

Anderson, S. P., Yang, J., Bowers, M.L., Wong, L., Fan, J. E. (2026, September). What reusable shortcuts do people propose when solving assembly problems? Presented at the 19th Bay Area Memory Meeting. Berkeley, CA, United States.

Anderson, S. P., Yang, J., Bowers, M.L., Wong, L., Fan, J. E. (2026, July). What reusable shortcuts do people propose when solving assembly problems? Poster presented at the 44th Annual Conference of the Cognitive Science Society. Rio de Janeiro, Brazil.

Anderson, S. P., Wong, L., Bowers, M. L., Fan, J. E. (2025, September). Consequences of prior experience on visual problem solving. Poster presented at the 18th Bay Area Memory Meeting. Davis, CA, United States.

Anderson, S. P., Wong, L., Bowers, M. L., Fan, J. E. (2025, July). Consequences of prior experience on visual problem solving. Poster presented at the 43rd Annual Conference of the Cognitive Science Society. San Francisco, CA, United States.

Anderson, S. P. (2022, June). A proposal for automatic harmony analysis with Minimalist syntax. Presented at the 13th International Conference on Computational Creativity, Doctoral Consortium. Bolzano, Italy.

Yang, S. C.-H., Anderson, S., Wang, P., Rank, C., Folke, T., & Shafto, P. (2021, July). Inferring knowledge from behavior in search-and-rescue tasks. Poster presented at the 43rd Annual Conference of the Cognitive Science Society. Vienna, Austria.

Anderson, S. P., Adkins, T. J., Gary, B. S., & Lee, T. G. (2019, July). Explicit cues lead to reward-related enhancements in motor skill performance. Poster presented at the 41st Annual Conference of the Cognitive Science Society. Montréal, Québec, Canada.

Anderson, S. P., Adkins, T. J., Gary, B. S., & Lee, T. G. (2019, March). Explicit cues lead to reward-related enhancements in motor skill performance. Poster presented at the 2019 CogSci Community Undergraduate Cognitive Science Colloquium. Ann Arbor, MI, United States.

Anderson, S. P. (2018, October). Studying creativity. Presented during the CogSci Community Weekly Discussion. Ann Arbor, MI, United States.

Anderson, S. P., & Kamper, D. (2018, April). College admissions: making the most of high school. Presented at the 3rd Refugees to College Seminar Series at Central Academy. Ann Arbor, MI, United States.

Kamper, D., & Anderson, S. P. (2018, February). College admissions: an overview for parents. Presented at the 1st Refugees to College Seminar Series at Central Academy. Ann Arbor, MI, United States.

Teaching

PSYCH 10: Introduction to Statistical Methods: Precalculus

Stanford University

Teaching Assistant

Fall 2026

Taught by Dr. Judith E. Fan

PSYCH 45: Learning and Memory

Stanford University

Teaching Assistant

Spring 2026

Taught by Prof. Anthony Wagner

PSYCH 45: Learning and Memory

Stanford University

Teaching Assistant

Spring 2025

Taught by Prof. Anthony Wagner

UARTS 260: Telemann Chorale Project

University of Michigan

Teaching Assistant

Fall 2021

Mentors: Prof. Somangshu Mukherji

Served as a TA in one of several Faculty Engineering+Arts Student Teams (FEAST) at University of Michigan. Advised a team of 10 undergraduates in developing a computational model (constraint satisfaction) of Baroque chorale structure and part-writing.

Service

Conference reviewing

Cognitive Science Society

2026

Computational Cognitive Science Reading Group

Stanford Psychology

Organizer

Apr 2024–present

COGRAPH 2024 Workshop at CogSci '24

Rotterdam, Netherlands

Co-Organizer

Jul 2024

Graduate Program Committee

Stanford Psychology

Student Representative

Sep 2023–Sep 2024

NeurIPS 2019

Student Volunteer

Vancouver, BC, Canada

Dec 2019

Refugees to College

Vice Director, Volunteer Case Worker

Ann Arbor, MI

Oct 2016–Aug 2020

Standing with UNHCR's #WithRefugees Coalition, we work to increase resettled refugees' access to higher education and professional opportunities through educational workshops and bespoke consulting.