

Felix Jedidja Binder

E-Mail: me@felixbinder.net
URL: <http://ac.felixbinder.net/>

Education

- 2019–2024
anticipated PhD Student, Cognitive Science Department, University of California San Diego
Supervised by Prof. Judith Fan (Stanford), Marcelo Mattar (NYU) & David Kirsh (UCSD)
- 2024 Visiting Researcher at Stanford University
- 2023 Artificial General Intelligence Safety Fundamentals Course, BlueDot Impact
- 2019 Diverse Intelligences Summer Institute, University of St. Andrews
- 2013–2019 Bachelor of Arts in Philosophy and Computer Science, Freie Universität Berlin

Experience

- 2019–2024
anticipated Graduate Researcher, Cognitive Tools Lab & Interactive Cognition Lab, University of California San Diego
- 2024 Constellation Visiting Researcher
- 2023 AI Research Scientist Intern, Cambria Labs
- 2017–2019 Student Research Assistant, Berlin School of Mind & Brain

Publications

* indicates equal contribution.

- 2023 **Binder, F.**, Mattar, M., Kirsh, D., & Fan, J. Humans Choose Visual Subgoals to Reduce Cognitive Cost. *Proceedings of the 45th Annual Conference of the Cognitive Science Society.*
- 2023 Martinez, J., **Binder, F.**, Wang, H., Haber, N., Fan, J., & Yamins, D. L. K. Measuring and Modeling Physical Intrinsic Motivation. *Proceedings of the 45th Annual Conference of the Cognitive Science Society.*
- 2023 Wang, H.*, Jedoui, K.*, Venkatesh, R.*, **Binder, F.***, Yamins, D., Fan, J., & Smith, K. Modeling and evaluating how the brain makes physical predictions. *Proceedings of the Society for Neuroscience.*
- 2021 Bear, D.*, Wang, E.*, Mrowca, D.*, **Binder, F.***, Tung, H., Pramod, R. T., Holdaway, C., Tao, S., Smith, K., Sun, F., Fei-Fei, L., Kanwisher, N., Tenenbaum, J., Yamins, D.** & Fan, J.** Physion: Evaluating Physical Prediction from Vision in Humans and Machines. *NeurIPS 2021 (Datasets & Benchmarks track)*
Code & paper: <https://github.com/cogtoolslab/physics-benchmarking-neurips2021>
- 2021 **Binder, F.**, Mattar, M., Kirsh, D., & Fan, J. Visual scoping operations for physical assembly. *Proceedings of the 43th Annual Conference of the Cognitive Science Society, 7.*
Code & paper: https://github.com/cogtoolslab/tools_block_construction
- 2021

Binder, F.*, Jones, C. R.*, Kaufman, R. A., & Lin, N. T. Cognitive cost and information gain trade off in a large-scale number guessing game. *Proceedings of the 43th Annual Conference of the Cognitive Science Society*, 7.

Code & paper: https://github.com/felixbinder/number_guessing_game

2017

Binder, F., Körper als Paradigma. *cogito, München*

Prizes, Grants & Awards

2023

Effective Ventures Long Term Future Fund Grant for study on the emergence of steganography in Large Language Models (\$2,000)

2023

Won the [Alignment Jam Agency Foundations Hackathon](#) with "Evaluating Myopia in Large Language Models" (joint work with Marco Bazzani)

2023

Cognitive Science Society Travel Award (\$1,200)

2021, 2022

CARTA Fellowship in Anthropogeny (\$50,000)

2019

Research grant from Templeton World Charity Foundation (\$500)

Teaching

2023

COGS 18 Introduction to Programming with Dr. Eric Morgan

Teaching Assistant

2021

COGS 118B Introduction to Artificial Intelligence II with Prof. Marcelo G. Mattar

Teaching Assistant

2020-2021

COGS 100 Cyborgs Now and in the Future with Prof. David Kirsh

Teaching Assistant

2020

COGS 109 Models and Data Analysis with Prof. Megan Bardolph

Teaching Assistant

2019-2020

COGS 100 Cyborgs Now and in the Future with Prof. Taylor Scott

Teaching Assistant

Conference Presentations

2023

Talk: Best Practices for Cognitive AI Benchmarking at *Cognitive AI Benchmarking workshop at CogSci*

2023

Talk: Humans Choose Visual Subgoals to Reduce Cognitive Cost at *Cognitive Science Society*

2023

Poster: Towards an Evaluation of Steganography in Large Language Models at *7th Annual Center for Human-Compatible AI (CHAI) Workshop*

2023

Poster: Humans choose visual subgoals to reduce cognitive cost at *Vision Sciences Society*

2022

Poster: Visual Scoping Operations for Physical Assembly at *Reinforcement Learning and Decision Making*

2021

Poster: *Physion: Evaluating Physical Prediction from Vision in Humans and Machines* at [NeurIPS 2021 \(Datasets & Benchmarks track\)](#)

2021

Talk: Visual scoping operations for physical assembly at *47th Annual Meeting of the Society for Philosophy and Psychology*

2021

Poster: Visual scoping operations for physical assembly at *43th Annual Conference of the Cognitive Science Society*

2021

- Poster: Cognitive cost and information gain trade off in a large-scale number guessing game at *43th Annual Conference of the Cognitive Science Society*
- 2021 Poster: Visual Scoping for Block Construction at *CSSA* in San Diego, CA, April 2021
- 2018 Poster: On the boundary conditions of mind under Predictive Processing at *Open Self 2018* in Berlin, September 2018
- 2018 Poster: The golden ratio is not always preferred in art at *Visual Science of Art Conference 2018* Trieste, Italy, August 2018
- 2018 Poster: On the boundary conditions of mind under Predictive Processing at *Cognitive Systems Modelling – 7th peripatetic conference* in Małe Ciche, Poland, October 2018
- 2017 Talk: Körper als Paradigma at *Produktive Äquivalenz - Die Metapher im transdisziplinären Kontext*, at Humboldt Universität zu Berlin, July 2017
- 2017 Lecture: Körper als Paradigma zwischen Phänomenologie und Neurowissenschaften as part of lecture series *Studierendenvortrag Philosophie* at Humboldt Universität zu Berlin, May 2017

Outreach

- 2023 Co-founded Effective Altruism @ UC San Diego
- 2023 Co-organized a workshop on Cognitive AI Benchmarking at CogSci, Sydney, June 2023
- 2022 Outreach video for high school students on the topic "Can Machines Think?"; San Diego, October 2022
- 2021 Video on perception in neural network and AI ethics for high school students with pathways2AI, San Diego, September 2021
- 2021 Co-organized the *2021 meeting of The Academy Neuroscience for Architecture* in San Diego, CA, September 2021
- 2018 Co-organized the 10th birthday of the Association of Neuroesthetics at Volksbühne Berlin, September 2018
- 2018 Organisation of VR body swap workshop during Watch Your Bubble Conference & exhibition at Kunstverein Tiergarten / Galerie Nord, Berlin, May 2018
- 2017 Helped organize the Visual Science of Art Conference (VSAC 2017) in Berlin, August 2017
- 2017 Ran VR body swap workshop at Digitaler Salon at Alexander von Humboldt Institut für Internet und Gesellschaft, Berlin, November 2017
- 2017 Organisation of VR body swap at Digitaler Salon: Ein Herz für Cyborgs at Alexander von Humboldt Institut für Internet und Gesellschaft, Berlin, June 2017
- 2017 Organisation of workshop on VR body swap at Lange Nacht der Wissenschaften at Berlin School of Mind & Brain, June 2017
- 2017 Organisation of workshop Ich bin Du/Du bist Ich for underprivileged youth (on inducing empathy by swapping bodies in virtual reality) at Apartment Project/Schloss 19, Berlin, October – November 2017
- 2016 Organisation of VR body swap experiment at Digitaler Salon: Internet der Sinne at Alexander von Humboldt Institut für Internet und Gesellschaft, Berlin, November 2016
- 2016 Organisation of workshop Ich bin Du/Du bist Ich for underprivileged youth (on inducing empathy by swapping bodies in virtual reality) by Apartment Project/Stadtvilla Global Berlin, August 2016

Proficiency

Programming languages & frameworks

Advanced

Python
PyTorch
L^AT_EX

Intermediate

Java
C#
Haskell
Javascript
node.js
mongoDB
HTML & CSS
R

Scientific computing & empirical research tools

Advanced

Unix
Matlab/Octave
ThreeDWorld (TDW)
jsPsych
Pupil Labs Eyetracking
System
Amazon Mechanical Turk &
Prolific

Intermediate

HPC
slurm

Creative tools

Advanced

Unity
Virtual Reality
TouchDesigner
various VJ and projection
mapping software
Blender
various photogrammetry
software

Intermediate

Adobe Suite
Unreal Engine
GLSL