

# WASITA MAHAPHANIT

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## RESEARCH INTERESTS

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How can we effectively collaborate with others and enhance our understanding of the world, given our unique viewpoints and incomplete access to information? In other words, how do we adaptively interact with others and improve our mental models of the world in the face of uncertainty? What role does communication and other types of interaction play in this collaborative effort, and how are these processes computationally supported? To investigate these questions, I employ a range of techniques, including large-scale real-time online behavioral experiments, natural language processing (NLP), and computational modeling.

## EDUCATION

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### Dartmouth College

Ph.D. Candidate in Cognitive Neuroscience

Advisor: Luke J. Chang

2021 – Present

📍 Hanover, NH

### Brown University

B.S., Cognitive Neuroscience (Honors)

Advisor: Amitai Shenhav

2014 – 2018

📍 Providence, RI

## RESEARCH EXPERIENCE

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### Graduate Student Researcher

Dartmouth College | Dept. of Psychological & Brain Sciences (PBS)

★ [cosanlab.com](#)

Advisor: Luke J. Chang

Research focuses: collaboration, communication, theory of mind, dyadic & group social interactions, social networks, fMRI

2021 – Present

📍 Hanover, NH

### Lab Manager/Research Assistant

Brown University | Dept. of Cognitive, Linguistic, & Psychological Sciences (CLPS)

★ [lncbrown.com](#)

Advisor: Michael J. Frank

Research focuses: computational psychiatry (esp. OCD), reinforcement learning, decision-making, EEG, pharmacology, Parkinson's Disease

2018 – 2021

📍 Providence, RI

### Undergraduate Research Assistant

Brown University | Dept. of Cognitive, Linguistic, & Psychological Sciences (CLPS)

★ [shenhavlab.org](#)

Advisor: Amitai Shenhav

Research focuses: cognitive control, performance monitoring, task-switching, EEG

2016 – 2018

📍 Providence, RI

### Summer Undergraduate Research Intern

Providence VA Medical Center

★ [vivo.brown.edu/display/nphilip](#)

Advisor: Noah Philip

Research focuses: major-depressive disorder, post-traumatic stress disorder, rTMS

2016 – 2018

📍 Providence, RI

## TEACHING EXPERIENCE

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### Graduate Teaching Assistant

Dartmouth College | Dept. of Psychological & Brain Sciences (PBS)

Cognitive Psychology

Professor: Viola Störmer

Spring 2023

📍 Hanover, NH

## Graduate Teaching Assistant

Dartmouth College | Dept. of Psychological & Brain Sciences (PBS)

Principles of Human Brain Mapping with fMRI  
Professor: Luke J. Chang

Fall 2022

📍 Hanover, NH

## Graduate Teaching Assistant

Dartmouth College | Dept. of Psychological & Brain Sciences (PBS)

Emotion  
Professor: Mark Thornton

Spring 2022

📍 Hanover, NH

## Graduate Teaching Assistant

Dartmouth College | Dept. of Psychological & Brain Sciences (PBS)

Principles of Human Brain Mapping with fMRI  
Professor: Luke J. Chang

Fall 2021

📍 Hanover, NH

## Undergraduate Teaching Assistant

Brown University | Dept. of Computer Science

Intro to Scientific Computing and Problem Solving  
Professor: Daniel Potter

Spring 2018

📍 Providence, RI

## Undergraduate Teaching Assistant

Brown University | Dept. of Cognitive, Linguistic, & Psychological Sciences (CLPS)

Intro to Programming  
Professor: Thomas Serre

Fall 2017

📍 Providence, RI

## PAPERS

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Culbreth, A., Moran, E., **Mahaphanit, W.**, Erickson, M., Boudewyn, M., Frank, M.J., Barch, D., MacDonald III, A., Ragland, J., Luck, S., Silverstein, S., Carter, C., & Gold, J. (2023). A Transdiagnostic Study of Effort-Cost Decision-Making in Psychotic and Mood Disorders. *Schizophrenia Bulletin*.

Provenza, N.R., Gelin, L., **Mahaphanit, W.**, McGrath, M., Dastin-van Rijn, E., Fan, Y., Dhar, R., Frank, M.J., Restrepo, M.I., Goodman, W.K., and Borton, D. (2021). Honeycomb: a template for reproducible psychophysiological tasks for clinic, laboratory, and home use. *Brazilian Journal of Psychiatry*.

## PAPERS IN PREPARATION

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**Mahaphanit, W.\***, Welker, C.\*, Schmidt, H., Chang, L.J., & Hawkins, R.X.D. (In prep.). When and why does shared reality generalize?

**Mahaphanit, W.** & Chang, L.J. (In prep.). Are shared experiences blind?

**Mahaphanit, W.** & Chang, L.J. (In prep.). Communication as behavioral annotations for experimental stimuli

Kang, J., **Mahaphanit, W.**, Provenza, N., Nassar, M., Allam, A., Bechtold, R., Diab, N., Rajesh, S., Reddy, S., Reyes, G., Dastin-van Rijn, E., Gandhi, A., Hirani, S., Banks, G., Dang, H., Avendano-Ortega, M., McKay, S., Borton, D., Frank, M.J., Storch, E., Herron, J., Goodman, W., Hayden, B., & Sheth, S. (In prep.). The effect of adaptive deep brain stimulation for obsessive-compulsive disorder in cognitive self-control under uncertainty

**Mahaphanit, W.**, Geana, A., and Frank, M.J. (In prep.). Perceptual uncertainty disrupts credit assignment in stimulus value learning and perceptual categorization

## TALKS

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**Mahaphanit, W.** (September 2024 - Forthcoming). Collaboratively learning to communicate a shared wavelength. Lab Meeting (PIs: Matthew Apps, Romy Froemer, Arkady Konovalov, Patricia Lockwood, & Lei Zhang), University of Birmingham, Birmingham, UK.

**Mahaphanit, W.** (February 2024 - Forthcoming). Are shared experiences blind? Shared Reality Virtual Mini-Conference.

**Mahaphanit, W.** (December 2023). Web dev approaches to studying social interactions. Social Interaction Lab (PI: Robert Hawkins) meeting. University of Wisconsin-Madison, WI.

**Mahaphanit, W.** (November 2023). Learning to communicate a shared wavelength. New England Research on Decision-Making (NERD) conference at Harvard University, Cambridge, MA.

**Mahaphanit, W.** (October 2023). Learning to collaboratively communicate a shared wavelength. Social Interaction Lab (PI: Robert Hawkins) meeting. University of Wisconsin-Madison, WI.

**Mahaphanit, W.** (October 2023). Does shared reality generalize? Social Interaction Lab (PI: Robert Hawkins) meeting. University of Wisconsin-Madison, WI.

**Mahaphanit, W.** (September 2023). Learning to collaboratively communicate a shared wavelength. Social Lab (SLAB) Talk Series at Dartmouth College, Hanover, NH.

**Mahaphanit, W.** (August 2023). Does shared reality generalize? Methods in Neuroscience at Dartmouth (MIND) Summer School at Dartmouth College, Hanover, NH.

**Mahaphanit, W.** (May 2023). Decision-Making. Guest lecture for PSYC 028 (Cognitive Psychology) class taught by Prof. Viola Störmer at Dartmouth College, Hanover, NH.

**Mahaphanit, W.** (September 2022). On using a chat app to study communication and shared reality. Social Lab (SLAB) Talk Series at Dartmouth College, Hanover, NH.

**Mahaphanit, W.** (May 2022). Evolutionary game theory. Guest lecture for PSYC 043 (Emotion) class taught by Prof. Mark Thornton at Dartmouth College, Hanover, NH.

**Mahaphanit, W.** (October 2021). On building a chat app for studying shared reality construction in communication. Social Lab (SLAB) Talk Series at Dartmouth College, Hanover, NH.

**Mahaphanit, W.** (December 2020). Computations in information-seeking and decision-making in Obsessive Compulsive Disorder. Learning, Memory, & Decision Lab (PI: Matthew Nassar) meeting. Brown University, Providence, RI.

**Mahaphanit, W.** (November 2020). Intro to Honeycomb: a template for reproducible psychophysiological task creation. Center for Computation & Visualization (CCV) tutorial series. Brown University, Providence, RI.

**Mahaphanit, W.** (June 2020). Computations in information-seeking and decision-making in Obsessive Compulsive Disorder. Brown Unconference on Computational Intelligence and Applications. Brown University, Providence, RI.

**Mahaphanit, W.** (May 2018). The costs of having better alternatives. Departmental undergraduate honors thesis oral defense presentation. Brown University, Providence, RI.

## POSTERS

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**Mahaphanit, W.\***, Welker, C.\*, Schmidt, H., Chang, L.J., & Hawkins, R.X.D. (July 2024). When and why does shared reality generalize? Submitted to the Cognitive Science Society (CSS). Rotterdam, Netherlands.

Kang, J., **Mahaphanit, W.**, Provenza, N., Nassar, M., Allam, A., Bechtold, R., Diab, N., Rajesh, S., Reddy S., Reyes, G., Dastin-van Rijn, E., Gandhi, A., Hirani, S., Banks, G., Dang, H., Avendano-Ortega, M., McKay, S., Borton, D., Frank, M.J., Storch, E., Herron, J., Goodman, W., Hayden, B., & Sheth, S. (June 2024). The effect of adaptive deep brain stimulation for obsessive-compulsive disorder in cognitive self-control under uncertainty. Submitted to the American Society for Stereotactic & Functional Neurosurgery (ASSFN). Nashville, TN.

**Mahaphanit, W.**, Hawkins, R.X.D., Phillips, J.S., & Chang, L.J. (April 2024). Learning to communicate a shared wavelength facilitates social connection. Submitted to the Social & Affective Neuroscience Society (SANS). Toronto, Canada.

**Mahaphanit, W.** & Chang, L.J. (February 2024). Shared experiences strengthen social connectedness through shared impression formation and communication behavior. Accepted at the Society for Personality & Social Psychology (SPSP). San Diego, California.

**Mahaphanit, W.** & Chang, L.J. (July 2023). Shared experiences strengthen social connectedness through shared impression formation and communication behavior. Presented at the Cognitive Science Society (CogSci). Sydney, Australia.

**Mahaphanit, W.** & Chang, L.J. (April 2023). Are shared experiences blind? Presented at the Social and Affective Neuroscience Society (SANS). Santa Barbara, CA.

Geana, A., **Mahaphanit, W.**, & Frank, M.J. (October 2019). The role of perceptual uncertainty in value learning and naturalistic stimulus categorization. Presented at the Society for Neuroscience (SfN). Chicago, IL.

**Mahaphanit, W.**, Geana, A., & Frank, M.J. (July 2019). Perceptual uncertainty influences stimulus value learning in perceptual categorization. Presented at the 4th Multidisciplinary conference on Reinforcement Learning and Decision Making (RLDM). Montreal, CA.

Provenza, P., Dastin-van Rijn, E., McLaughlin, N., Sheth, S., Viswanathan, A., Vogt, G., Ramakrishnan, R., McIngvale, E., Storch, E., **Mahaphanit, W.**, Nassar, M., Frank, M.J., Ertugrul, I., Jeni, L., Cohn, J., Borton, D., Goodman, W. (April 2019). Preliminary experience with developing adaptive Deep Brain Stimulation for Obsessive Compulsive Disorder. Presented at the 5th Annual BRAIN Investigator's Meeting. Washington, DC.

## AWARDS & HONORS

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Neukom Travel Award (\$1,000)   Dartmouth College	July 2024
Neukom Travel Award (\$1,000)   Dartmouth College	April 2023
NSF Graduate Research Fellowship   Honorable Mention	April 2022
B.S. in Cognitive Neuroscience with Honors	May 2018
Sigma Xi   Nominated to Brown University Chapter	May 2018
Deep Learning Datathon @ Brown University   1st Place	January 2018

## FELLOWSHIPS & SCHOLARSHIPS

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Karen T. Romer Undergraduate Teaching & Research Award (\$3,500)   Brown University	Summer 2017
Karen T. Romer Undergraduate Teaching & Research Award (\$1,000)   Brown University	Spring 2014
Sorensen Family Chancellor's Scholarship   Brown University	2015-2017
Junior Volunteer Endowment Scholarship (\$2,000)   Maine Medical Center	Spring 2014

## SCIENTIFIC & COMMUNITY OUTREACH

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Software Engineer for Featured Trust Game & fMRI Operator   PBS NOVA   Episode: Who's in Control?	May 2023
Podcast Guest   Svelte Radio   Svelte in Research at Dartmouth with Wasita & Eshin	April 2023
Site Maintainer   Website Working Group   Women in Network Science (WiNS) Society	2022-Present
Content Contributor & Site Maintainer   Info Theory Book ( <a href="https://cosanlab.github.io/info-theory-book">cosanlab.github.io/info-theory-book</a> )	2022-Present
Content Contributor & Site Maintainer   Intro to FMRI at Dartmouth ( <a href="https://dartbrains.org">dartbrains.org</a> )	2021-Present
Pre-Grad Mentor & Consultant   Project SHORT	2020-Present
Contributing Software Engineer   Honeycomb ( <a href="https://brown-ccv.github.io/honeycomb-docs">brown-ccv.github.io/honeycomb-docs</a> )	2019-2021
Rhode Island Brain Week Booth Organizer   <a href="https://brainweekri.org">brainweekri.org</a>	2018-2020
Rhode Island Brain Week Booth Volunteer   <a href="https://brainweekri.org">brainweekri.org</a>	2017-2018

## RESEARCH TRAINING

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Methods in Neuroscience at Dartmouth (MIND) Summer School   Dartmouth College	2023
Computational Neuroscience   Neuromatch Academy	2021
Carney Computational Modeling Workshop   Brown University	2018

## PROFESSIONAL & DEPARTMENTAL SERVICE

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Social Lab (SLAB) Talk Series Co-organizer   Dartmouth PBS	2021-Present
Consortium for Interacting Minds (CIM) Seminar Series Co-organizer   Dartmouth PBS	2021-Present
Meeting Harmonization Committee   Dartmouth PBS	2021-Present
Teaching Assistant Repository Creation & Organization Committee   Dartmouth PBS	2022-2023
Transitioning from Intro to Programming to Career in Computation   Alumni Panelist   Brown CLPS	2021
Managing Minds (lab manager peer mentoring group) Founder & Organizer   Brown Carney/CLPS	2019-2021

