WASITA MAHAPHANIT

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RESEARCH INTERESTS

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

Dartmouth College
2021 — Present
Ph.D. Candidate in Cognitive Neuroscience
Hanover, NH
Advisor: Luke J. Chang

Brown University
2014 — 2018
B.S., Cognitive Neuroscience (Honors)
Providence, RI
Advisor: Amitai Shenhav

RESEARCH EXPERIENCE

Graduate Student Researcher
2021 — Present
Dartmouth College | Dept. of Psychological & Brain Sciences (PBS)
Hanover, NH
cosanlab.com
Advisor: Luke J. Chang
Research focuses: collaboration, communication, theory of mind, dyadic & group social interactions, social networks, fMRI

Lab Manager/Research Assistant
2018 — 2021
Brown University | Dept. of Cognitive, Linguistic, & Psychological Sciences (CLPS)
Providence, RI
lnccbrown.com
Advisor: Michael J. Frank
Research focuses: computational psychiatry (esp. OCD), reinforcement learning, decision-making, EEG, pharmacology, Parkinson's Disease

Undergraduate Research Assistant
2016 — 2018
Brown University | Dept. of Cognitive, Linguistic, & Psychological Sciences (CLPS)
Providence, RI
shenhavlab.org
Advisor: Amitai Shenhav
Research focuses: cognitive control, performance monitoring, task-switching, EEG

Summer Undergraduate Research Intern
2016 — 2018
Providence VA Medical Center
Providence, RI
vivo.brown.edu/display/nphilip
Advisor: Noah Philip
Research focuses: major-depressive disorder, post-traumatic stress disorder, rTMS

TEACHING EXPERIENCE

Graduate Teaching Assistant
Spring 2023
Dartmouth College | Dept. of Psychological & Brain Sciences (PBS)
Hanover, NH
Cognitive Psychology
Professor: Viola Störmer

Graduate Teaching Assistant
Fall 2022
Dartmouth College | Dept. of Psychological & Brain Sciences (PBS)
Hanover, NH

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

Graduate Teaching Assistant
Spring 2022
Dartmouth College | Dept. of Psychological & Brain Sciences (PBS)
Hanover, NH

Emotion
Professor: Mark Thornton

Graduate Teaching Assistant
Fall 2021
Dartmouth College | Dept. of Psychological & Brain Sciences (PBS)
Hanover, NH

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

Undergraduate Teaching Assistant
Spring 2018
Brown University | Dept. of Computer Science
Providence, RI

Intro to Scientific Computing and Problem Solving
Professor: Daniel Potter

Undergraduate Teaching Assistant
Fall 2017
Brown University | Dept. of Cognitive, Linguistic, & Psychological Sciences (CLPS)
Providence, RI

Intro to Programming
Professor: Thomas Serre

PREPRINTS

Mahaphanit, W.* , Welker, C.*, Schmidt, H., Chang, L.J., & Hawkins, R.X.D. (2024). When and why does shared reality generalize?
[PDF]

PAPERS

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 Rijin, 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. Brazillian Journal of Psychiatry.

PAPERS IN PREPARATION

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

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). 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

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 Multidisplinary 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

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

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

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 (cosanlab.github.io/info-theory-book)	2022-Present
Content Contributor & Site Maintainer | Intro to FMRI at Dartmouth (dartbrains.org)	2021-Present
Pre-Grad Mentor & Consultant | Project SHORT	2020-Present
Contributing Software Engineer | Honeycomb (brown-ccv.github.io/honeycomb-docs)	2019-2021
Rhode Island Brain Week Booth Organizer | brainweekri.org	2018-2020
Rhode Island Brain Week Booth Volunteer | brainweekri.org	2017-2018

RESEARCH TRAINING

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

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
Cognitive Neuroscience DUG Alumni Career Panelist | Brown CLPS	2018