September 2020

JIN HYUN CHEONG

PhD candidate in Cognitive Neuroscience
Dartmouth College

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Education

Dartmouth College, Hanover NH — 2015 - present
PhD candidate in Cognitive Neuroscience, advised by Dr. Luke J. Chang.

Princeton Neuroscience Institute, Princeton NJ — 2013 - 2015
Lab Manager at Botvinick Lab, advised by Dr. Matthew Botvinick.

Princeton University, Princeton NJ — 2007 - 2013
A.B. with Honors in Psychology and certificates in Neuroscience with Honors and in Finance
Advised by Dr. Matthew Botvinick and Dr. Daniel Osherson

Research Training

Kavli Summer Institute in Cognitive Neuroscience, UC Santa Barbara, CA. — summer 2019

Neurohackademy, University of Washington, Seattle, WA. — summer 2018

Methods in Neuroscience at Dartmouth, Dartmouth College, Hanover, NH. — summer 2017

NIH Multimodal Neuroimaging Training Program, University of Pittsburgh, PA. — summer 2017

Awards

Teaching Professional Development Grant, Dartmouth Center for Advancement of Learning, Dartmouth College. — 2020

First Place, Thayer Consulting Case Competition, sponsored by Google and McKinsey & Co., Dartmouth College. — 2019

Best Poster Award, Social and Affective Neuroscience Society, Miami, FL. — 2019

Best Thematic Flash Talk Award, Society for Affective Science, Los Angeles, CA. — 2018

Best Dartmouth Community Hack, HackDartmouth Hackathon, Dartmouth College. — 2018

NEUKOM Institute Computational Research Travel Grant, Dartmouth College. — 2018

NIH NIDCR Travel Award, 2017 APS Annual Convention, Boston, MA. — 2017

NIH Multimodal Neuroimaging Training Program Travel Award, University of Pittsburgh, PA. — 2017

Best Poster Award, Dartmouth Graduate Poster Session, Dartmouth College. — 2017

Best Poster Award, Social and Affective Neuroscience Society, Los Angeles, CA. — 2017

Dartmouth Entrepreneurial Network Innovation Prize & 2nd Best Hack, HackDartmouth Hackathon, Dartmouth College. — 2016

Samsung Scholarship, Full college tuition scholarship, Seoul, Korea. — 2007

Research Funding

Guarini Alumni Research Award, Dartmouth College. — 2019

Class of '05 Crowdfunding Support Grant, Magnuson Center for Entrepreneurship, Dartmouth College. — 2019

AI Grant, Artificial Intelligence Grant. — 2018

Presidential Fellow Award, Dartmouth College. — 2015

Horton Elmer Fund, Senior Thesis Research Grant Funding, Princeton University. — 2013

Publications

Cheong, J.H., Molani, Z., Sadhukha, S., & Chang, L.J. (Under Revision at *Nature Communications Biology*). Temporal and spatial synchrony of emotions in shared experiences increase social connection. [Preprint]

Chang, L.J., Jolly, E., **Cheong, J.H.**, Chen, P.H.A, Rapuano, K., & Manning, J.R. (Under Revision at *Science Advances*). Endogenous variation in ventromedial prefrontal cortex state dynamics reflects affective experience in naturalistic viewing. [Preprint]

Chen, P.H.A., Jolly, E., **Cheong, J.H.,** & Chang, L.J. (2020). Inter-subject representation similarity analysis reveals individual variations in affective experience when watching erotic movies. *Neuroimage*, 116851. [Link][Preprint]

Chen, P.H.A., **Cheong, J.H.**, Jolly, E., Elhence, H., Wager, T.D., & Chang, L.J. (2019). Socially transmitted placebo effects. *Nature Human Behavior*, 1-11. [Link]

Cheong, J.H., Brooks, S., and Chang, L.J. (2019). FaceSync: Open source framework for recording facial expressions with head-mounted cameras. *F1000 Research*, 8. [Link][Preprint]

Momennejad, I., Russek, E.M., **Cheong, J.H.,** Botvinick, M.M., Daw, N. and Gershman, S.J. (2017). The successor representation in human reinforcement learning: evidence from retrospective revaluation. *Nature Human Behavior*, 1. [Link] [Preprint]

Cheong, J.H., Jolly, E., Sul, S., & Chang, L.J. (2017). Computational models in social neuroscience. In *Computational Models of Brain and Behavior*, Moustafa, A (Ed), Wiley-Blackwell. [Link]

Oud, B., Krajbich, I., Miller, K., **Cheong, J. H.**, Botvinick, M., & Fehr, E. (2016). Irrational time allocation in decision-making. In *Proc. R. Soc. B*(Vol. 283, No. 1822, p. 20151439). *The Royal Society*. [Link]

Working Papers

Cheong, J.H., Byrne, S., & Chang, L.J. (in prep). FEAT: Facial expression analysis toolbox.

Cheong, J.H., Ferreira, C., Du, M., Wang, Y., Han, X., Uddenberg. St., & Thornton M. (in prep). Python Pose Analysis Toolbox.

Cheong, J.H., Arnold, A., Chang, L.J., & Winkielman, P. (in prep). Comparison of facial EMG measures and automatically extracted action units from face videos in distinguishing affective states.

Cheong, J.H., Losin, E.R., Wager, T.D., and Chang, L.J. (in prep). Temporal dynamics in biomarkers of doctor empathy modulates patient pain responses in simulated clinical interactions.

Diuk, C.*, Yee, D.*, **Cheong, J.H.***, Weinstein, A., Stachenfeld, K., Schapiro, A., Barto, A., Niv, Y., and Botvinick, M.M. (in prep). A warped map of problem space in human hippocampus. *equal contributions.

Talks & Poster presentations

Cheong, J.H. and Chang, L.J. (October, 2020). Shared values and facial expression synchrony facilitate social bonding in group decisions. Symposium cancelled due to COVID-19. Originally to be presented at Decisions in Sensor-Based Measurement in Group and Team Research symposium at the 2020 Interdisciplinary Network for Group Research conference.

Cheong, J.H. and Da Silva, A.W. (February, 2020). Large scale text analyses of online doctor reviews reveal patient values in doctor-patient relationships. Poster presented at the 2020 Society for Personality and Social Psychology Annual Conference, New Orleans, LA. *Travel supported by Dartmouth Center for Advancement of Learning.

Cheong, J.H., Sadhukha, S., Molani, Z., and Chang, L.J. (September, 2019). Synchronized emotions during shared experiences increase social connection. Poster presented at the 2019 Affective Computing and Intelligent Interactions Bi-annual Conference, Cambridge, UK. * Travel supported by Guarini Student Support Fund.

Cheong, J.H., Chen, P.H., Jolly, E., Elhence, H., Wager, T., and Chang, L.J. (May, 2019). Transmission of placebo effects via social interactions. Poster presented at the 2019 Social and Affective Neuroscience Society, Miami, FL. * Travel supported by Guarini Student Support Fund.

Cheong, J.H., Chen, P.H., Jolly, E., Elhence, H., Wager, T., and Chang, L.J. (April, 2019). Socially transmitted placebo effects. Poster presented at the 2019 Society for Affective Science Annual Conference, Boston, MA. *SANS Best Poster Award.

Cheong, J.H., Sadhukha, S., Molani, Z., and Chang, L.J. (April, 2018). Convergence of opinions and emotions in shared experiences. Flash-Talk presented at the 2018 Society for Affective Science Annual Conference, Los Angeles, CA. *Best Thematic Flash Talk Award

Cheong, J.H., Losin, E., Wager, T., and Chang, L.J. (May, 2017). Temporal Dynamics in Biomarkers of Doctor Empathy Modulates Patient Pain Responses in Simulated Clinical Interactions*. Poster presented at the 2017 29th Association for Psychological Science Annual Convention, Boston, MA. * Travel supported by NIDCR/NIH Building Bridges Award.

Cheong, J.H., Jolly, E., and Chang, L.J. (April, 2017). Inferring social impressions from facial expressions*. Poster presented at the 2017 Dartmouth Graduate Poster Session, Hanover, NH. *Best Poster Award.

Cheong, J.H., Jolly, E., and Chang, L.J. (March, 2017). A window into the mind: A computational approach to measuring emotions in response to naturalistic stimuli*. Poster presented at the 2017 Social and Affective Neuroscience Society, Los Angeles, CA. *SANS Best Poster Award.

Jolly, E., **Cheong, J.H.** & Chang, L.J. (March, 2017). Spontaneous impression-formation about parasocial relationships. Presentation at the Annual Meeting of the Social and Affective Neuroscience Society, Los Angeles, CA.

Brooks, H., **Cheong, J.H.**, Cohen, J.D., and Chang, L.J. (November, 2016). Using patterns of functional brain connectivity to classify autism spectrum disorder. Poster presented at the 2016 Annual Biomedical Research Conference for Minority Students, Tampa, FL.

Cheong, J.H., Jolly, E., and Chang, L.J. (June, 2016). Psychophysiological intersubject synchrony to naturalistic stimuli. Poster presented at the 2016 Samsung Scholarship Academic Camp, Muju, Korea.

Momennejad, I., **Cheong, J.H.**, Botvinick, M.M., and Gershman, S.J. (June, 2015). The successor representation in human reinforcement learning: evidence from retrospective revaluation. Poster presented at the 2nd Multidisciplinary Conference on Reinforcement Learning and Decision Making, Edmonton, Canada.

Botvinick, M.M., Diuk, C., Yee, D., **Cheong, J.H.**, Weinstein, A., Schapiro, A., Niv Y., and Barto, A. (Nov, 2014). A hierarchical representation of problem space in human hippocampus. Poster presented at the 44th Annual Society for Neuroscience Meeting, Washington, DC.

Oud, B., Krajbich, I., Miller, K., **Cheong, J.H.**, Botvinick, M.M., and Fehr, E. (June, 2014). Irrational time allocation in decision making. Poster presented at 2014 Samsung Scholarship Academic Camp, Yosemite, CA.

Cheong, J.H. (June, 2014). Importance of self-control and ways to enhance it. Talk at Samsung Scholarship Academic Camp, Yosemite, CA.

Cheong, J.H. and Osherson, D. (June, 2013). Effects of involvement and timing on illusion of control's mediation of loss aversion. Poster presented at 2013 Samsung Scholarship Academic Camp, Muju, Korea.

Cheong, J.H. (June, 2013). Psychology of face perception. Talk at *2013 Samsung Scholarship Academic Camp*, Muju, Korea.

Software Development

Line@KAF. iOS & web application that provide real time estimation of wait times using neural network models. http://lineatkaf.com/

PaperWiki. A Wikipedia-like platform for collaborative discussion and summary of scientific articles. http://www.paperwiki.org

MaskOnMe. Automatically add a mask to your social media profile pics to spread COVID-19 awareness. http://maskonme.herokuapp.com

py-pat. A Python toolbox for preprocessing, visualizing, and analyzing pose data. https://github.com/jcheong0428/py-pat

feat. A Python toolbox for preprocessing, visualizing, and analyzing facial expression data. https://github.com/cosanlab/feat

facesync. A Python toolbox for synchronizing videos based on audio features. https://github.com/cosanlab/facesync

nltools. A Python toolbox for analyzing neuroimaging data. https://github.com/cosanlab/nltools

Emotion detector. Extract emotions from face images. http://jinhyuncheong.com/affectiva-app/affectiva_emotion_detector_photo.html

pyMedoc. A Python tool to remotely communicate with the Medoc Pathway Pain Evaluation system. https://github.com/cosanlab/pymedoc

Teaching Experience

Behavior of Groups, T.A., Dartmouth College — fall 2019
- Guest lecture on non-verbal behavioral synchrony analysis and led lab sessions for data analysis.

Methods in Neuroscience at Dartmouth College, T.A., Dartmouth College — summer 2019
- Guest lecture and lab session on how to use Jupyter Notebooks for data analysis with Python.

Social Psychology, T.A., Dartmouth College — winter 2018
- Guest lecture on "Moving, feeling, and thinking in synchrony"

Principles of Human Brain Mapping with fMRI, T.A., Dartmouth College — fall 2017
- Developed notebooks and led lab sessions for fMRI neuroimaging analyses, available at https://github.com/jcheong0428/psyc60.

Advanced Statistics Workshop, T.A., Dartmouth Summer Seminar for Composition Research — summer 2017
- Provided statistics consulting and seminar for composition researchers.

Experimental Study of Social Behavior, T.A., Dartmouth College — winter 2017
- Supervised student social psychology experiments from data collection to analyses through lab sessions and coding tutorials.

Experimental Study of Social Behavior, T.A., Dartmouth College — spring 2016
- Led lab sessions teaching Python programming for statistical data analyses, available at https://github.com/jcheong0428/psyc63

Community Service

Magnuson Center for Entrepreneurship, Student Leadership Board, Dartmouth College. — 2019 - present
- Advisor and judge for the 20W Dartmouth Pitch Night awarding $12,000 in grant and prizes.
- Organized and led a team of Dartmouth undergraduates to win the 2020 New England Venture Capital Investment Competition.

- Hosted campus-wide seminars and talks to promote and support undergraduate and graduate student entrepreneurs.
- Represented Dartmouth graduate student entrepreneurs at the Magnuson Center West Coast experience networking with Dartmouth alumni startups, accelerators, and venture capital firms in Seattle and San Francisco.

Dartmouth Graduate Consulting Group, President, Dartmouth College. 2019 - present

- Provided pro-bono consulting to more than six local businesses in the Dartmouth community area.
- Designed and rolled out a new restaurant menu, redesigned the website, and optimized Google & Yelp business profiles for a Thai-Cambodian restaurant achieving 7% increase in revenue and 26% increase in online visitors.
- Built a product display recommendation tool for a local kitchenware store and optimized their marketing campaigns by evaluating reach per dollar spent across channels and impact on sales. Achieved 6% increase in revenue and 10% increase in transactions.

Line@KAF, co-founder, Dartmouth College. 2018 - present

- Designed and developed a free mobile and web application for real-time wait time estimation, trend analysis, and crowdsourced inventory tracking for a notoriously busy campus cafe King Arthur Flour (KAF) at Baker-Berry Library.
- Raised $23,000 in funding, led a team of student developers and designers for 30 weeks, and coordinated with business owners, college administrators, and IT services for successful deployment and maintenance of application.
- Decreased wait time variability by 28% while increasing customer visits by 13% at the campus cafe and achieved 25% market penetration with 2K+ app downloads & 300+ daily users.

Towards Data Science, Medium, contributing writer. 2018 - present

- Published 10+ articles and tutorials on statistics and data science with a total of 50k+ views.

Social Brain Sciences Seminar, organizer, Psychological and Brain Sciences Department, Dartmouth College. 2019 - present

Social Labs at Dartmouth Seminar, organizer, Psychological and Brain Sciences Department, Dartmouth College. 2017

Departmental Graduate Student Representative, Psychological and Brain Sciences Department, Dartmouth College. 2016 - 2018

Graduate Research Roundtable, organizer, Psychological and Brain Sciences Department, Dartmouth College. 2016 - 2017

Technical Skills

Software: Python, Full Stack Web Development, R, MATLAB.