*July 2019*

# 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
Advisor: Luke Chang

**Princeton Neuroscience Institute**, Princeton NJ — 2013 - 2015
Lab Manager at Botvinick Lab
Advisor: Matthew Botvinick

**Princeton University**, Princeton NJ — 2007 - 2013
A.B. with Honors in Psychology
Certificate in Neuroscience with Honors
Certificate in Finance
Advisors: Matthew Botvinick, 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

First Place, Thayer Consulting Case Competition, sponsored by Google & McKinsey & Co. — 2019
SANS 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, 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 — 2017
SANS Best Poster Award, Social and Affective Neuroscience Society, Los Angeles, CA — 2017
Second Best Hack, Hackathon, Dartmouth College — 2016
Dartmouth Entrepreneurial Network Innovation Prize, Hackathon, Dartmouth College — 2016
Presidential Fellow Award, Dartmouth College — 2015
Samsung Scholarship, Full college tuition Scholarship, Seoul Korea — 2007

## Funding

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

AI Grant, Artificial Intelligence Grant. 2018
Horton Elmer Fund, Senior Thesis Research Grant Funding, Princeton University 2013

## Publications

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.

Chen, P.H.A., **Cheong, J.H.**, Jolly, E., Elhence, H., Wager, T.D., & Chang, L.J. (Under Revision at Nature Human Behavior). Socially transmitted placebo effects.

**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 Behaviour, 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.**, Molani, Z., Sadhukha, S., & Chang, L.J. (in prep). Temporal and spatial synchrony of emotions in shared experiences increase social connection.

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

**Cheong, J.H.,** Jolly, E., and Chang, L.J. (in prep). Intersubject Representational Similarity Analysis (IS-RSA) identifies brain regions that represents individual variances in behavior, cognition, and traits.

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.

## Posters & Presentations

**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.

**Cheong, J.H.,** Sadhukha, S., Molani, Z., and Chang, L.J. (May, 2018). Convergence of opinions and emotions in shared experiences. Poster presented at the *2018 Annual Meeting of the Social and Affective Neuroscience Society,* Brooklyn, NY.

**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. **NIDCR/NIH Building Bridges Travel 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

**feat.** A Python toolbox for analyzing and visualizing 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.** Web application to extract emotions from face images using the Affectiva JavaScript API.
http://jinhyuncheong.com/affectiva-app/affectiva_emotion_detector_photo.html

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

**LineAtKAF.** 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

## Teaching Experience

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| Social Psychology, T.A., Dartmouth College | Winter 2018 |
| Principles of Human Brain Mapping with fMRI, T.A., Dartmouth College | Fall 2017 |
| Advanced Statistics Workshop, T.A., Dartmouth Summer Seminar for Composition Research | Summer 2017 |
| Experimental Study of Social Behavior, T.A., Dartmouth College | Winter 2017 |
| Experimental Study of Social Behavior, T.A., Dartmouth College | Spring 2016 |

## Services & Activities

Magnuson Center for Entrepreneurship, Student Leadership Board 2019
Dartmouth Graduate Consulting Group, probono consultant for local businesses 2019
- Web presence optimization for local restaurant leading to 5% increase in visitors and 12% increase in duration

Towards Data Science, Medium, contributing writer 2018~
- Maximizing group happiness using the Hungarian optimal assignment algorithm
- Four ways to quantify synchrony between time series data
- Why models with significant variables can be useless predictors
- Chance is not enough: Evaluating model significance with permutations

fMRI Brown Bag Meeting, organizer, Dartmouth College 2018
Dartmouth Social Labs Meeting, organizer, Dartmouth College 2017
Departmental Graduate Student Representative, Dartmouth College 2016 - 2018
Graduate Research Roundtable, organizer, Dartmouth College 2016 - 2017

## Technical Skills

Software: Python, MATLAB, R, SPM, FSL, Full Stack Web Development.
Certification for fMRI scanners (Dartmouth College, Princeton University)