

# JIN HYUN CHEONG

PhD Candidate in Cognitive Neuroscience  
Dartmouth College

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## Education

<b>Dartmouth College</b> , Hanover, NH PhD candidate in Cognitive Neuroscience Advisor: Luke Chang	2015 - <i>present</i>
<b>Princeton Neuroscience Institute</b> , Princeton, NJ Lab Manager at Botvinick Lab Advisor: Matthew Botvinick	2013 - 2015
<b>Princeton University</b> , Princeton, NJ A.B. with Honors in Psychology Certificate in Neuroscience with Honors Certificate in Finance Advisors: Matthew Botvinick, Daniel Osherson	2007 - 2013

## Research Training

<b>Neurohackademy</b> , University of Washington, Seattle, WA	summer 2018
<b>Methods in Neuroscience at Dartmouth</b> , Dartmouth College, Hanover, NH	summer 2017
<b>NIH Multimodal Neuroimaging Training Program</b> , University of Pittsburgh, PA	summer 2017

## Awards, Funding, & Membership

<b>Graduate Alumni Research Award</b> , Dartmouth College.	2019
<b>First Place in Thayer Consulting Case Competition</b> , sponsored by Google & McKinsey & Co.	2019
<b>AI Grant</b> , Artificial Intelligence Grant, <a href="https://aigrant.org">https://aigrant.org</a>	2018
<b>Best Thematic Flash Talk Award</b> , Society for Affective Science, Los Angeles, CA	2018
<b>Best Dartmouth Community Hack</b> , Hackathon, Dartmouth College	2018
<b>NEUKOM Institute Computational Research Travel Grant</b> , Dartmouth College	2018
<b>NIH NIDCR Travel Award</b> , 2017 APS Annual Convention, Boston, MA	2017
<b>NIH Multimodal Neuroimaging Training Program Travel Award</b> , University of Pittsburgh, PA	2017
<b>Best Poster Award</b> , Dartmouth Graduate Poster Session	2017
<b>SANS Best Poster Award</b> , Social and Affective Neuroscience Society, Los Angeles, CA	2017
<b>Dartmouth Entrepreneurial Network Innovation Prize</b> , Hackathon, Dartmouth College	2016
<b>Second Best Hack</b> , Hackathon, Dartmouth College	2016
<b>Presidential Fellow Award</b> , Dartmouth College	2015
<b>Sigma Xi Scientific Research Society</b> , Princeton University	2013
<b>Horton Elmer Fund</b> , Senior Thesis Research Grant Funding, Princeton University	2013
<b>Samsung Scholarship</b> , Full college tuition Scholarship	2007

## 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, 2018). 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 29<sup>th</sup> 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 *2<sup>nd</sup> 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 *44<sup>th</sup> 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 & Contributions

**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](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.  
<https://www.paperwiki.org>

## Teaching Experience

**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**, pro bono consultant for local businesses, 2019

**Towards Data Science**, Medium, contributing writer, 2018

**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 & Languages***

Software: Python, MATLAB, R, SPM, FSL, Microsoft Excel, PowerPoint, Word  
Certification for fMRI scanners (Dartmouth College, Princeton University)  
Language: Korean (NS), English (Fluent), Chinese (Intermediate)