

# Eshin Jolly

Dartmouth College  
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Currently	<b>Postdoctoral Fellow</b> Center for Cognitive Neuroscience Center for Interacting Minds <u>Cosan Lab</u> , Dartmouth College, Hanover, NH PI: Luke J. Chang	2019–
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Education	<b>Dartmouth College</b> , Hanover, NH PhD, Cognitive Neuroscience NSF Graduate Fellow Thesis: Social Cognitive Maps: A Relational Account of Person Representation and Memory	2012–2019
	<b>University of Rochester</b> , Rochester, NY BA, Brain and Cognitive Science/Psychology Minor, Music Thesis: Testing Domain Specificity: Conceptual Knowledge of Living and Non-living Things	2006–2010

Employment	<b>PhD Research Intern</b> Microsoft Research, New York City, NY Computational Social Science Group PIs: Duncan Watts & Sid Suri	summer 2016
	<b>Lab Manager</b> Harvard University, Cambridge, MA PI: Jason P. Mitchell	2010–2012

Research Experience	<b>University of Rochester</b> , Rochester, NY PIs: Jessica F. Cantlon & Bradford Z. Mahon Honors Thesis Student	2009–2010
	<b>Baruch College</b> , New York City, NY PI: Jennifer Mangels Research Assistant	2008–2010
	<b>Mt Hope Family Center, University of Rochester</b> , Rochester, NY PI: Sheree Toth; Mentor: Jack Peltz Research Assistant	2008–2010

Manuscripts	
In Prep	<b>Jolly, E.</b> (in prep). SvelteTurk: An open-source graphical application to simplify data collection via Amazon Mechanical Turk. [ <a href="#">documentation site</a> ]

**Jolly, E.**, Chang, L.J. (in prep). Social cognitive maps: Encoding and reinstatement of neural patterns that reflect beliefs about social relationships.

**Jolly, E.**, Cheong, J.C. & Chang, L.J. (in prep). Social relationships not impression formation: Comparing neural models of the social brain during naturalistic neuroimaging.

**Jolly, E.**, Smith A., Gangadharan, A.A., Hoidal, A.S. & Chang, L.J. (in prep). Guilt-aversion motivates harm-minimization in surrogate decision-making.

Under review/revision

**Jolly, E.**, Farrens, M., Greenstein, N., Eisenbarth, H., Reddan, M.C., Andrew, E., Wager, T.D. & Chang, L.J. (under review). Recovering individual emotional states from sparse ratings using collaborative filtering. [[arXiv preprint](#)] [[toolbox](#)]

Gao, X., **Jolly, E.**, Yu, H., Liu, H., Zhou, X., Chang, L. J. (under revision). The hidden cost of receiving favors: A theory of indebtedness. [[bioRxiv preprint](#)]

Published

2021

**Jolly, E.** & Chang, L.J. (2021). Multivariate spatial feature selection in fMRI. *Social Cognitive and Affective Neuroscience*, 16(8), 795-806. [[Link](#)]

**Jolly, E.** & Chang, L.J. (2021). Gossip drives vicarious learning and facilitates social connections. *Current Biology*, 31, 1-11. [[Link](#)] [[data & materials](#)] [[press - New York Times](#)] [[press - VPR News](#)] [[press - PNAS Journal Club](#)]

Chang, L.J., **Jolly, E.**, Cheong, J.H., Rapuano, K., Greenstein, N., Chen, P.A. & Manning, J.R. (2021). Endogenous variation in ventromedial prefrontal cortex state dynamics during naturalistic viewing reflects affective experience. *Science Advances*, 7(17), 1-17. [[Link](#)] [[data & materials](#)]

2020

**Jolly, E.\***, Sadhukha, S.\*, Chang, L.J. (2020). Response to Lynch et al: On measuring head motion and effects of head molds during fMRI. *NeuroImage*, 117484. [[Link](#)] [[data & materials](#)]

**Jolly, E.\***, Sadhukha, S.\*, Chang, L.J. (2020). Custom-molded headcases have limited efficacy in reducing head motion during naturalistic fMRI experiments. *NeuroImage*, 117207. [[Link](#)] [[data & materials](#)]

\*Equal contribution

Chen, P. H. A., **Jolly, E.**, Cheong, J. H. & Chang, L. J. (2020). Intersubject representational similarity analysis reveals individual variations in affective experience when watching erotic movies. *NeuroImage*, 116851. [[PDF](#)] [[data & materials](#)]

2019

Chen, P.A., Cheong, J.H., **Jolly, E.**, Elhence, H., Wager, T.D., Chang, L.J. (2019). Socially transmitted placebo effects. *Nature Human Behavior*, 3, 1295-1305. [[PDF](#)] [[data & materials](#)]

**Jolly, E.\***, Tamir, D.I.\*, Burum, B.A. & Mitchell, J.P. (2019). Wanting without enjoying: The social value of sharing experiences. *PLoS One*, 14(4), e0215318. [[PDF](#)] [[data & materials](#)] \*Equal contribution

**Jolly, E.**, & Chang, L.J. (2019). The Flatland Fallacy: Moving Beyond Low Dimensional Thinking. *Topics in Cognitive Science*, 1-22. [[PDF](#)] [[figure & simulation code](#)]

2018

**Jolly, E.** (2018). Pymer4: Connecting R and Python for linear mixed modeling. *Journal of Open Source Software*, 3(31), 862. [[PDF](#)] [[documentation site](#)]

Chang, L. J. & **Jolly E.** (2018). Emotions as computational signals of goal error. In A. Fox, R. Lapate, A. Shackman & R. Davidson (Eds), *The Nature of Emotion* (343-351). Oxford University Press. [[PDF](#)]

2017

Cheong, J.C., **Jolly, E.**, Sul, S. & Chang, L.J. (2017). Computational Models in Social and Affective Neuroscience in Moustafa, A. (Eds), *Computational Models of Brain and Behavior* (229-245). Hoboken, NJ: Wiley. [[Link](#)]

Rane, S.\*, **Jolly, E.\***, Park, A.\*, Jang, H\*. & Craddock, R.C. (2017). Developing predictive biomarkers using whole-brain classifiers: Application to the ABIDE I dataset. *Research Ideas and Outcomes*, 3:e12733. [[PDF](#)].

\*Equal contribution

2011-2016

Moran, J.M., **Jolly, E.** & Mitchell, J.P. (2014). Spontaneous mentalizing predicts the fundamental attribution error. *Journal of Cognitive Neuroscience*, 26(3), 569-576. [[PDF](#)]

Moran, J.M., **Jolly, E.** & Mitchell, J.P. (2012). Social-cognitive deficits in normal aging. *Journal of Neuroscience*, 32(16), 5553-5561. [[PDF](#)]

**Jolly, E.** (2011). Testing domain specificity: Conceptual knowledge of living and non-living things. *The Yale Review of Undergraduate Research in Psychology*, 2, 94-118. [[PDF](#)]

## Talks & Presentations

2020

Social Cognitive Maps: A Relational Account of Person Representation and Memory.

Invited talk at Harvard University, Cambridge, MA.

Why Design Abstractions Matters for Analytics Tools: Neuroimaging analysis with Neuro-Learn.

Symposium talk at Scientific Computing with Python Virtual conference ([virtual talk](#)).

Spontaneous Neural Representations of Social Relationships in Naturalistic Contexts.

Symposium talk at Society for Affective Science, San Francisco, CA. (conference cancelled).

Methodological challenges in contemporary fMRI studies.

Invited talk at Neuroimaging Analysis Methods meeting, Princeton University, Princeton, NJ.

2019

Introduction to Git and Github.

Lecture at Methods in Neuroscience Computational Summer School, Dartmouth College, Hanover, NH.

2018

Introduction to Git and Github.

Lecture at Methods in Neuroscience Computational Summer School, Dartmouth College, Hanover, NH.

Introduction to Jupyter Notebooks for Interactive Data Analysis.

Lecture at Methods in Neuroscience Computational Summer School, Dartmouth College, Hanover, NH.

Introduction to functional alignment methods for fMRI.

Lecture at Sao Paulo School of Advanced Science on Social and Affective Neuroscience. Sao Paulo, Brazil.

2017

Naturalistic approaches towards an understanding of social reasoning and

communication.

Invited talk, Stanford University, Stanford, CA.

The Social Benefits of Gossip

Presentation at the New England Research on Decision-Making conference, Brown University, Providence, RI.

Computational tools for neuroscience: Containers and Jupyter Notebooks.

Lecture at Methods in Neuroscience Computational Summer School, Dartmouth College, Hanover, NH.

Introduction to Singularity: Running containers on a HPC.

Tutorial at Graduate research roundtable workshop, Dartmouth College, Hanover, NH.

Introduction to git and github for psychologists.

Presentation at the Reproducible Psychological Science workshop at the Annual Meeting for the Association for Psychological Science, Boston, MA.

Interpersonal dynamics and the inelasticity of social guilt.

Presentation at the Boston Area Moral Cognition Group, Boston, MA.

Interpersonal dynamics and the inelasticity of social guilt.

Presentation at Affectiva, Boston, MA.

Spontaneous impression-formation about parasocial relationships.

Presentation at the Annual Meeting of the Social and Affective Neuroscience Society, Los Angeles, CA.

Introduction to Jupyter Notebooks (and why you should love them!).

Tutorial at Brainhack Dartmouth College, Hanover, N.H.

Research Methods for Conducting Synchronous Online Experiments.

Guest Lecture at Dartmouth College, Hanover, NH.

Contemporary fMRI pre-processing: Introduction to Nipype and Docker.

Tutorial at Dartmouth College, Hanover, NH.

State of the Data: Annual Dartmouth Brain Imaging Center Quality Assurance Report.

Presentation at Dartmouth College, Hanover, NH.

2016

Field experiments on human prosociality using Mechanical Turk.

Presentation at Microsoft Research, New York, NY.

Research Methods for Conducting Synchronous Online Experiments.

Guest Lecture at Dartmouth College, Hanover, NH.

The Social Benefits of Gossip.

Guest Lecture at Dartmouth College, Hanover, NH.

The Social Benefits of Gossip.

Presentation at the Social Brain Sciences Brown Bag series at Dartmouth College, NH.

## Posters & Conference Proceedings

2021

**Jolly, E.** & Chang, L.J. (2021). Spontaneous Neural Representations of Social Relationships in Naturalistic Contexts.\*

Poster at Social Affective Neuroscience Society meeting (online conference; in-person cancelled due to COVID-19)

\*Winner, SANS Poster Award

2020

**Jolly, E.** (2020). Pymer4: Bringing R's Powerful Mixed-modeling to Python.\*

Virtual poster at Scientific Computing with Python Virtual Conference. (in-

person cancelled).

\*Winner, Scipy Scholarship

2019

**Jolly, E.** & Chang, L.J. (2019). Gossip drives vicarious learning and facilitates robust social connections.

Poster at Social and Affective Neuroscience Society meeting, Miami, FL.

Cheong, J.C., Chen, P.A., **Jolly, E.**, Elhence, H., Wager, T.D., Chang, L.J. (2019). Socially transmitted placebo effects.

Poster at Society for Affective Science meeting, Boston, MA.

2018

**Jolly, E.**, Reddan, M.C., Gianaros, P.J., Manuck, S.M. Chang, L.J., Wager, T.D. (2018). NeuroLIME: A novel tool for explaining the predictions of complex brain models.

Poster at Social and Affective Neuroscience Society meeting, New York, NY.

Reddan, M.C., **Jolly, E.**, Wager, T.D. (2018). NeuroLIME: A novel tool for explaining the predictions of nonlinear neuroimaging classifiers.

Poster at the Organization for Human Brain Mapping meeting, Singapore, Singapore.

Reddan, M.C., **Jolly, E.**, Wager, T.D. (2018). NeuroLIME: A novel tool for explaining the predictions of nonlinear neuroimaging classifiers.

Poster at the Computational and Systems Neuroscience meeting, Denver, CO.

2017

**Jolly, E.** & Chang, L.J. (2017). Gossip drives vicarious learning and facilitates robust social connections.

Poster at the Annual Meeting of the Association for Psychological Science, Boston, MA.

Cheong, J.H., **Jolly, E.** & Chang, L.J. (2017). A window into the mind: A computational approach to measuring emotions in response to naturalistic stimuli.

Poster the Annual Meeting of the Social and Affective Neuroscience Society, Los Angeles, CA.

2016

**Jolly, E.** & Chang, L.J (2016). Groups, gossip and social dilemmas.

Poster at the International Conference on Computational Social Science, Evanston, IL.

2015

**Jolly, E.**, Tamir, D.I. & Mitchell, J.P. (2015). The social value of sharing experiences.\*

\*Winner, SANS Poster Award

Poster at the Annual Meeting of the Social and Affective Neuroscience Society, Boston, MA.

2012

Moran, J.M., **Jolly, E.**, & Mitchell, J.P. (2012). Spontaneous mentalizing supports the fundamental attribution error.

Poster the Annual Meeting of the Cognitive Neuroscience Society, Chicago, IL.

2010

Peltz, J.S. Toth, S.L., Rogosch, F.A., **Jolly, E.**, & Cicchetti, D. (2010). Paternal emotional availability's effects on children's socioemotional functioning in maternal depression contexts.

Poster at the Annual Meeting of the Association for Psychological Science, Boston, MA.

## Awards

Mistletoe Research Fellowship finalist	2021
Scientific Computing with Python Scholarship Award	2020
Social Affective Neuroscience Society Poster Award	
Kavli Summer Institute in Cognitive Neuroscience	2019
Dartmouth Thayer Consulting Case Competition 1st Place	
Hack Dartmouth Finalist	
Hack Dartmouth Best Community Hack	2018
Sao Paulo Summer School on Social and Affective Neuroscience (SPSAN)	
Dartmouth Graduate Arts and Science Travel Award	
Dartmouth PBS Graduate Travel Award	
Neukom Institute Travel Award	
Dartmouth Graduate Alumni Research Award	2017
Dartmouth PBS Graduate Travel Award	
Methods in Neuroscience Computational Summer School	
Summer School in Social Neuroscience and Neuroeconomics	
Social Affective Neuroscience Society Trainee Data Blitz Award	
Human Neuroimaging Methods Travel Award	
Hack Dartmouth 2nd Place project award	2016
Neurohackweek Summer School	
Social Affective Neuroscience Society Poster Award	2015
Dartmouth PBS Graduate Travel Award	
National Science Foundation Graduate Research Fellowship	2013-2016
University of Rochester BCS Dept: Highest Honors in research	2010
University of Rochester Wilde-Trustee Scholarship	2006-2010

## Teaching

Methods in Neuroscience Computational Summer School (TA) Dartmouth College	2019
Functional Alignment Techniques in fMRI (Guest Lecturer) Mackenzie Presbyterian University, SPSAN, Sao Paulo, Brazil	2018
Methods in Neuroscience Computational Summer School (TA) Dartmouth College	
Methods in Neuroscience Computational Summer School (TA) Dartmouth College	2017

Experimental Study of Social Behavior (Guest Lecturer) Dartmouth College	2016
Experimental Study of Social Behavior (Guest Lecturer) Dartmouth College	
Social Psychology (Guest Lecturer) Dartmouth College	2015
Brain Mapping with functional MRI (TA and Guest Lecturer) Dartmouth College	
Laboratory in Psychological Science* (TA and Guest Lecturer) *Mentored award winning undergraduate group Dartmouth College	2014
Experimental Design and Methodology (TA and Guest Lecturer) Dartmouth College	2013
Laboratory in Psychological Science (TA and Guest Lecturer) Dartmouth College	2011
Introduction to MATLAB for Behavioral Research (ad-hoc workshop) Harvard University	
Mind Perception (ad-hoc workshop) Harvard University	
<b>Mentorship</b>	2017-2021
Maryam Iqbal '21 Presidential Scholar/Honors Thesis Dartmouth College	
Liza Begunova '21 Honors Thesis Dartmouth College	2020-2021
Max Farrens '20 Full-time Research Assistant Dartmouth College	2019-2020
Nathan P. Greenstein '19 Presidential Scholar Dartmouth College	2017-2019
Sushmita Sadhukua '18 Full-time Research Assistant Dartmouth College	
Arati A. Gangadharan '18 Honors Thesis Dartmouth College	2015-2018
Hirsh Elhence '17 Presidential Scholar Dartmouth College	2015-2017

## Technical Skills

### Programming Languages

Python, Javascript, Matlab, R, Bash

### Frontend Web Development

HTML, CSS, Svelte, Vue

### Backend/Fullstack/App Development

Node, Express, Meteor, MongoDB, Firebase, Flask, Electron

### Stimulus Presentation

Psychopy, Psychophysics toolbox, E-prime, Presentation

### Data Analysis

Scientific-Python, Statsmodels, Scikit-learn, Lme4

### Neuroimaging Analysis

FSL, AFNI, SPM, Nipype, Nilearn

### Data Visualization

Seaborn/Matplotlib, D3, Dash/Plotly, ggplot

### Dev Ops

Git/Github, TravisCI, Tox, Pytest, Moab-Torque

## Professional Activities

### Reviewer

Cerebral Cortex, Neuroimage, Human Brain Mapping, SCAN, Neuropsychologia, Cognition and Emotion, JESP, PLoS One, GigaScience  
ad-hoc: Nature Communications, SIGCHI, Frontiers in Psych, JPSP

### Society Memberships

Social and Affective Neuroscience Society, Society for Affective Science, Organization for Human Brain Mapping, Cognitive Neuroscience Society

## Leadership & Community

2020-Present

### Neighbors

**Core Maintainer**, Open Source Software

### SvelteTurk

**Project Author**, Open Source Software

2019-Present

### Inclusivity, Diversity, and Culture Advisory Committee

**Member**, Dartmouth College

### Code for America

**Project Manager**, Code for Upper Valley Brigade

2017-Present

### Pymer4

**Project Author**, Open Source Software

Web and Desktop Application Development

**Freelance Software Developer**

2016-Present

### Nltools

**Core Maintainer**, Open Source Software

Introductory data analysis with Python

**Private Tutor**

2020-2021

### Dartmouth College Postdoctoral Association

**Board Member**, Dartmouth College



2017-2020

Line@ Project

**Co-Founder**, Dartmouth College

2017

Dartmouth Brainhack

**Organizing committee member**, Dartmouth College

2014

GWISE Science day for local middle schools

**Station Leader**, Dartmouth College

2013-2015

Social Brain Sciences Symposium talk series

**Primary Organizer**, Dartmouth College

Social Area Graduate Student Representative

**Graduate Representative**, Dartmouth College

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Last updated: August 2021