DANIEL CHENG MOYER

Updated June 11, 2019

Los Angeles, CA

moyerd@usc.edu

RESEARCH INTERESTS

Machine Learning, Neuroimaging, Human Brain Networks (Connectomics), Representation Learning

EDUCATION

University of Southern California *Continuing*
Ph.D. in Computer Science
Advisors: Greg Ver Steeg and Paul Thompson

University of California, Los Angeles *June 2014*
B.S. in Mathematics of Computation, Minor in Statistics
Department and Latin Honors

RESEARCH EXPERIENCE

Stevens Neuroimaging and Informatics Institute March 2015 - Present
Graduate Research Assistant *Los Angeles, CA*

· Continuous Connectivity: [8] and [10-14]
· Blockmodels for Connectome Analysis: [16,17]
· Other projects: [7,9]

Information Sciences Institute March 2015 - Present
(Visiting) Graduate Research Assistant *Marina del Rey, CA*

· Invariant Representations [4]

OpenMail Summer 2016
Intern (Data Science) *Venice, CA*

· CTR analysis and CTR optimization system design, keyword analysis and generation.

Center for the Study of Choice January 2013 - June 2015
Independent Contractor, ARC Project ID: LP0990750 *Sydney, New South Wales, Australia*

· Data collection/warehousing, topic models for analysis of user produced forum content.
· Related Paper: [19]

UCLA REU/Guided Research June 2012 - August 2013, and Summer 2014
Undergraduate Researcher *Los Angeles, CA*

· 2012 Project: Social Network Analysis for the LAPD Field ID Card Database.
· 2013 Project: Contagion in swarm models. Agent based models for swarm interactions with contagion.
· 2014 Project: Social Media/Text Analysis. NMF based regularized topic models for point process models of geotagged Twitter data.
· Related Paper [15] and Presentations [24,25].

Cohen Lab, Semel Institute, UCLA August 2011 - June 2013
Undergraduate Researcher *Los Angeles, CA*

· Related Paper [20] and Presentations [26-29].

AWARDS, SERVICE, AND TECHNICAL ABILITIES

Computer Languages	C/C++, Python (NumPy/SciPy/Pandas), Matlab, R
Databases	MySQL, PostgreSQL

Service:
Reviewer for IEEE International Symposium on Biomedical Imaging
Reviewer for [the Journal of] Scientific Reports
Reviewer for the Journal of Alzheimer's Disease
Reviewer for IEEE Transactions on Image Processing
Reviewer for Human Brain Mapping
Reviewer for Neuroimage
Session Chair for SIPAIM 2015 (Imaging: Connectomics)

Awards:

USC CSCI Dept. Symposium Best Poster	Fall 2019
MICCAI-CDMRI '18 Best Oral Presentation	Fall 2018
MICCAI Young Scientist Award	Fall 2016

Awards:

NSF Graduate Research Fellowship Program (NSF GRFP)	Fall 2016–Present
NSF GRFP Honorable Mention	Spring 2015
Viterbi Graduate Fellowship	Fall 2014-Spring 2016
Dean's Honors List	Fall '10, Winter & Spring '11, Winter & Spring '12

Teaching Experience:
Teaching Assistant, USC CSCI 103, Spring 2016
Lab Assistant (Teaching Role), UCLA PIC Lab Fall 2012-Spring 2014

Invited Talks:

MIT-CSAIL (Biomedical Imaging and Analysis Seminar)	March '17

PRE-PRINTS

[1] Scanner Invariant Representations for Diffusion MRI Harmonization *Efficient Covariance Estimation from Temporal Data* Pre-print, https://arxiv.org/abs/1904.05375

[2] Hrayr Harutyunyan, Daniel Moyer, Hrant Khachatrian, Greg Ver Steeg, Aram Galstyan *Efficient Covariance Estimation from Temporal Data* Pre-print, https://arxiv.org/abs/1905.13276

[3] Rob Brekelmans, Daniel Moyer, Aram Galstyan, Greg Ver Steeg *Exact Rate-Distortion in Autoencoders via Echo Noise* Pre-print, https://arxiv.org/abs/1904.07199

PUBLICATIONS

[4] Daniel Moyer, Shuyang Gao, Rob Brekelmans, Greg Ver Steeg, and Aram Galstyan, *Invariant Representation without Adversarial Training*, Neural Information Processing Systems (NIPS) 2018.

[5] Fabrizio Pizzagalli, Guillaume Auzias, Armand Amini, Joshua Faskowitz, Faisal Rashid, Daniel Moyer, Peter Kochunov, Denis Rivire, Jean-Franois Mangin, Paul M Thompson, Neda Jahanshad, *Sulcal-based morphometry in Parkinsons disease: a study of reliability and disease effects*, SIPAIM, 2018.

[6] Fabian W Corlier, Daniel Moyer, Meredith N Braskie, Paul M Thompson, Guillaume Dorothee, Marie Claude Potier, Marie Sarazin, Michel Bottlaender, Julien Lagarde, *Automatic classification of cortical thickness patterns in Alzheimers disease patients using the Louvain modularity clustering method*, SIPAIM, 2018.

[7] Daniel Moyer, Paul M. Thompson, and Greg Ver Steeg, *Measures of Tractography Convergence*, MICCAI-CDMRI, 2018.

[8] Daniel Moyer, Boris Gutman, Neda Jahanshad, Joshua Faskowitz, Paul M. Thompson, *Continuous Representations of Brain Connectivity using Spatial Point Processes*, Medical Image Analysis (MedIA) 2017.

[9] Dmitry Petrov, Alexander Ivanov, Joshua Faskowitz, Boris Gutman, Daniel Moyer, Julio Villalon, Neda Jahanshad, Paul M. Thompson *Evaluating 36 Methods to Generate Structural Connectomes Using Pairwise Classification*, MICCAI, September 2017.

[10] Daniel Moyer, Boris Gutman, Neda Jahanshad, and Paul M. Thompson, *Product Space Decompositions for Continuous Representations of Brain Connectivity*, MICCAI–MLMI, September 2017.

[11] Daniel Moyer, Boris Gutman, Neda Jahanshad, and Paul M. Thompson, *A Restaurant Process Mixture Model for Connectivity Based Parcellation of the Cortex*, IPMI, June 2017.

[12] Dmitry Isaef, Boris Gutman, Daniel Moyer, Joshua Faskowitz, and Paul M. Thompson, *Cortical Connectome Registration Using Spherical Daemons* , SIPAIM, November 2017 (Oral Presentation).

[13] Daniel Moyer, Boris Gutman, Neda Jahanshad, Joshua Faskowitz, and Paul M. Thompson, *A Continuous Model of Cortical Connectivity*, MICCAI, October 2016 (Oral Presentation, Student Travel Award, Young Scientist Award).

[14] Daniel Moyer, Boris Gutman, Neda Jahanshad, Joshua Faskowitz, and Paul M. Thompson, *An Empirical Study of Continuous Connectivity Degree Sequence Equivalents*, MICCAI–BACON, October 2016 (Oral Presentation).

[15] Eric Le Lai, Daniel Moyer, Baichuan Yuan, Eric Fox, Blake Hunter, Andrea L. Bertozzi, Jeffery Brantingham, *Topic Time Series Analysis of Microblogs*, IMA Journal of Applied Math (2016) 81 (3): 409-431.

[16] Daniel Moyer, Boris Gutman, Gautam Prasad, Joshua Faskowitz, Greg Ver Steeg, and Paul M. Thompson, *Blockmodels for Connectome Analysis* SIPAIM, July 2015

[17] Daniel Moyer, Boris Gutman, Gautam Prasad, Greg ver Steeg, and Paul M. Thompson, *Mixed Membership Stochastic Blockmodels for the Human Connectome*, MICCAI-BAMBI Workshop, 2015.

[18] Talia M. Nir, Julio E. Villalon, Boris Gutman, Daniel Moyer, Neda Jahanshad, Clifford R. Jack Jr, Michael Weiner, Paul M. Thompson, *Alzheimer's Disease Classification with Novel Microstructural Metrics from Diffusion-Weighted MRI*, MICCAI-CDMRI Workshop, October 2015

[19] Daniel Moyer, Thayne Dye, Samuel L. Carson, Richard T. Carson, and David Goldbaum, *Determining the Influence of Reddit Posts on Wikipedia Pageviews*, ICWSM Workshop on Wikipedia, 2015.

[20] Pamela Douglas, Edward Lau, Ariana Anderson, Wesley Kerr, Austin Head, Margalit Aliza Wollner, Daniel Moyer, Michael Durnhofer, Wei Li, Jen Bramen, and Mark S. Cohen, *Single Trial Decoding of Belief Decision Making from EEG and fMRI Data Using ICA Features*, Frontiers in Human Neuroscience, 2013, 7:392. PMID: 23914164

CONFERENCE ABSTRACTS

[21] Daniel Moyer, Paul M. Thompson, and Greg Ver Steeg, *Measures of Tractography Convergence*, OHBM 2018.

[22] Daniel Moyer, Boris Gutman, Neda Jahanshad, and Paul M. Thompson, *A Restaurant Process Mixture Model for Connectivity Based Parcellation of the Cortex*; OHBM 2017.

[23] Daniel Moyer, Boris Gutman, Neda Jahanshad, and Paul Thompson, *Cluster Weighted Regressions for Connectome Analysis*; OHBM, 2016

[24] Daniel Moyer, Douglas de Jesus, and Lingge Li, *Evolutionary Agent-Based Models for Contagion*; Pacific Coast Undergraduate Mathematics Conference, Los Angeles 2014 (Oral Presentation)

[25] Douglas de Jesus, Lingge Li, and Daniel Moyer, *Metaheuristics Using Agent-Based Models for Swarm and Contagion*; Joint Math Meeting, Baltimore 2014

[26] Douglas P.K., Moyer D., Cohen M.S., *EEG-fMRI Coupling is Task Related and Spectrally Dependent*; SfN 2013 (Oral Presentation)

[27] Douglas P.K., Moyer D., Cohen M.S., *Co-localizing EEG and fMRI in the Spatial Domain*; OHBM, 19th Annual Meeting, Seattle, Washington 2013 (Oral Presentation)

[28] Pamela Douglas & Daniel Moyer, *Temporal Kernel Canonical Correlation Analysis: Deconvolving EEG/fMRI Signals in Space and Time*; OHBM, Beijing 2012

[29] Pamela Douglas, Daniel Moyer, and Mark S. Cohen, *Co-localizing EEG and fMRI in Space*; SfN, 2012