

DANIEL CHENG MOYER

Los Angeles, CA
moyerd@usc.edu

RESEARCH INTERESTS

Machine Learning, 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: [3] and [5-9]
- Blockmodels for Connectome Analysis: [11,12]
- Other projects: [1,4]

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

- Invariant Representations [2]

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: [14]

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 [10] and Presentations [19,20].

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

- Related Paper [15] and Presentations [21-24].

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
Session Chair for SIPAIM 2015 (Imaging: Connectomics)

Awards:

MICCAI Young Scientist Award Fall 2016
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

PUBLICATIONS

- [1] Daniel Moyer, Paul M. Thompson, and Greg Ver Steeg, *Measures of Tractography Convergence*, arXiv:1806.04634.
- [2] Daniel Moyer, Shuyang Gao, Rob Brekelmans, Greg Ver Steeg, and Aram Galstyan, *Evading the Adversary in Invariant Representation*, arXiv:1805.09458.
- [3] 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.
- [4] 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.
- [5] Daniel Moyer, Boris Gutman, Neda Jahanshad, and Paul M. Thompson, *Product Space Decompositions for Continuous Representations of Brain Connectivity*, MICCAI–MLMI, September 2017.
- [6] 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.
- [7] Dmitry Isaef, Boris Gutman, Daniel Moyer, Joshua Faskowitz, and Paul M. Thompson, *Cortical Connectome Registration Using Spherical Daemons*, SIPAIM, November 2017 (Oral Presentation).
- [8] 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).
- [9] 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).

- [10] 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.
- [11] Daniel Moyer, Boris Gutman, Gautam Prasad, Joshua Faskowitz, Greg Ver Steeg, and Paul M. Thompson, *Blockmodels for Connectome Analysis* SIPAIM, July 2015
- [12] 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.
- [13] 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
- [14] 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.
- [15] 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

- [16] Daniel Moyer, Paul M. Thompson, and Greg Ver Steeg, *Measures of Tractography Convergence*, OHBM 2018.
- [17] Daniel Moyer, Boris Gutman, Neda Jahanshad, and Paul M. Thompson, *A Restaurant Process Mixture Model for Connectivity Based Parcellation of the Cortex*; OHBM 2017.
- [18] Daniel Moyer, Boris Gutman, Neda Jahanshad, and Paul Thompson, *Cluster Weighted Regressions for Connectome Analysis*; OHBM, 2016
- [19] Daniel Moyer, Douglas de Jesus, and Lingge Li, *Evolutionary Agent-Based Models for Contagion*; Pacific Coast Undergraduate Mathematics Conference, Los Angeles 2014 (Oral Presentation)
- [20] Douglas de Jesus, Lingge Li, and Daniel Moyer, *Metaheuristics Using Agent-Based Models for Swarm and Contagion*; Joint Math Meeting, Baltimore 2014
- [21] Douglas P.K., Moyer D., Cohen M.S., *EEG-fMRI Coupling is Task Related and Spectrally Dependent*; SfN 2013 (Oral Presentation)
- [22] 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)
- [23] Pamela Douglas & Daniel Moyer, *Temporal Kernel Canonical Correlation Analysis: Deconvolving EEG/fMRI Signals in Space and Time*; OHBM, Beijing 2012
- [24] Pamela Douglas, Daniel Moyer, and Mark S. Cohen, *Co-localizing EEG and fMRI in Space*; SfN, 2012