

Oluwasanmi Koyejo

Curriculum Vitae

Engineering Research Associate
Department of Psychology,
Stanford University

Adjunct Assistant Professor
Department of Computer Science,
University of Illinois at Urbana-Champaign

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Lab: <https://poldracklab.stanford.edu>

Code: <https://github.com/sanmik>

Academic Positions

2016 -	Assistant Professor	University of Illinois at Urbana-Champaign
2015 - 2016	Adjunct Assistant Professor	University of Illinois at Urbana-Champaign
2014 - 2016	Engineering Research Associate	Stanford University (PI: R. Poldrack)
2013 - 2014	Research Associate	UT Austin (PI: R. Poldrack & P. Ravikumar)

Education

2013 - 2013	Postdoctoral Fellow	UT Austin (PI: R. Poldrack & P. Ravikumar)
2013	Ph.D., Electrical Engineering	UT Austin (Advisor: J. Ghosh)
2008	M.S., Electrical Engineering	UT Austin
2005	B.S. (Hons), Electrical Engineering & Minor in Statistics	New Jersey Institute of Technology (NJIT)

Scientific products

Technical publications

1. Russell Poldrack, Timothy Laumann, **Oluwasanmi Koyejo**, Brenda Gregory, Ashleigh Hover, Mei yen Chen, Krzysztof Gorgolewski, Jeffrey Luci, Sung Jun Joo, Ryan Boyd, Scott Hunicke-Smith, Zack Simpson, Thomas Caven, Vanessa Sochat, James Shine, Evan Gordon, Abraham Snyder, Babatunde Adeyemo, Steven Petersen, David Glahn, David McKay, Joanne Curran, Harald GÅuring, Melanie Carless, John Blangero, Robert Dougherty, Alexander Leemans, Daniel Handwerker, Laurie Frick, Edward Marcotte, and Jeanette Mumford. Long-term neural, behavioral, and physiological phenotyping of a single human: The myconnectome project. *Nature Communications*, 2015
2. **Oluwasanmi Koyejo***, Nagarajan Natarajan*, Pradeep K Ravikumar, and Inderjit S Dhillon. Consistent multilabel classification. In *Advances in Neural Information Processing Systems*, 2015
3. Shalmali Joshi, **Oluwasanmi Koyejo**, Kristine Resurreccion, and Joydeep Ghosh. Simultaneous prognosis and exploratory analysis of multiple chronic conditions using clinical notes. In *Proceedings of the IEEE International Conference on Healthcare Informatics 2015 (ICHI)*, 2015

4. Vanessa V Sochat, Krzysztof Jacek Gorgolewski, **Oluwasanmi Koyejo**, Joke Durnez, and Russell A Poldrack. Effects of thresholding on correlation-based image similarity metrics. *Frontiers in Neuroscience*, 9:418, 2015
5. James M Shine, **Oluwasanmi Koyejo**, Peter T Bell, Krzysztof J Gorgolewski, Moran Gilat, and Russell A Poldrack. Estimation of dynamic functional connectivity using multiplicative analytical coupling. *NeuroImage*, 122:399–407, 2015
6. Avradeep Bhowmik, Joydeep Ghosh, and **Oluwasanmi Koyejo**. Generalized linear models for aggregated data. In *Proceedings of the 18th International conference on Artificial Intelligence and Statistics (AISTATS)*, volume 38 of *JMLR Proceedings*, pages 93–101. JMLR.org, 2015
7. Rajiv Khanna, Joydeep Ghosh, Russell A. Poldrack, and **Oluwasanmi Koyejo**. Sparse sub-modular probabilistic PCA. In *Proceedings of the 18th International conference on Artificial Intelligence and Statistics (AISTATS)*, volume 38 of *JMLR Proceedings*, pages 453–461. JMLR.org, 2015
8. **Oluwasanmi Koyejo***, Nagarajan Natarajan*, Pradeep K Ravikumar, and Inderjit S Dhillon. Consistent binary classification with generalized performance metrics. In *Advances in Neural Information Processing Systems*, pages 2744–2752, 2014
9. **Oluwasanmi Koyejo**, Rajiv Khanna, Joydeep Ghosh, and Russell Poldrack. On prior distributions and approximate inference for structured variables. In *Advances in Neural Information Processing Systems*, pages 676–684, 2014
10. Anqi Wu, Mijung Park, **Oluwasanmi Koyejo**, and Jonathan W Pillow. Sparse Bayesian structure learning with "dependent relevance determination" priors. In *Advances in Neural Information Processing Systems*, pages 1628–1636, 2014
11. **Oluwasanmi Koyejo**, Cheng Lee, and Joydeep Ghosh. A constrained matrix-variate Gaussian process for transposable data. *Machine Learning*, 97(1-2):103–127, 2014
12. **Oluwasanmi Koyejo** and Joydeep Ghosh. Constrained Bayesian inference for low rank multitask learning. In *Proceedings of the 29th conference on Uncertainty in Artificial Intelligence (UAI)*, pages 97–106, 2013
13. Russell A Poldrack, Deanna M Barch, Jason P Mitchell, Tor D Wager, Anthony D Wagner, Joseph T Devlin, Chad Cumba, **Oluwasanmi Koyejo**, and Michael P Milham. Toward open sharing of task-based fMRI data: the openfMRI project. *Frontiers in Neuroinformatics*, 7, 2013
14. Mijung Park*, **Oluwasanmi Koyejo***, Joydeep Ghosh, Russell Poldrack, and Jonathan Pillow. Bayesian structure learning for functional neuroimaging. In *Proceedings of the Sixteenth International Conference on Artificial Intelligence and Statistics*, volume 31 of *JMLR Proceedings*, pages 489–497. JMLR.org, 2013
15. Cheng H Lee, **Oluwasanmi Koyejo**, and Joydeep Ghosh. Identifying candidate disease genes using a trace norm constrained bipartite raking model. In *Engineering in Medicine and Biology Society (EMBC), 2013 35th Annual International Conference of the IEEE*, pages 3459–3462. IEEE, 2013
16. **Oluwasanmi Koyejo**, Priyank Patel, Joydeep Ghosh, and Russell A Poldrack. Learning predictive cognitive structure from fMRI using supervised topic models. In *Pattern Recognition in Neuroimaging (PRNI), 2013 International Workshop on*, pages 9–12. IEEE, 2013

17. **Oluwasanmi Koyejo**, Sreangsu Acharyya, and Joydeep Ghosh. Retargeted matrix factorization for collaborative filtering. In *Proceedings of the 7th ACM Conference on Recommender Systems, RecSys '13*, pages 49–56, New York, NY, USA, 2013. ACM
18. **Oluwasanmi Koyejo**, Cheng Lee, and Joydeep Ghosh. Constrained Gaussian process regression for gene-disease association. In *Data Mining Workshops (ICDMW), 2013 IEEE 13th International Conference on*, pages 72–79. IEEE, 2013
19. **Oluwasanmi Koyejo** and Russell A. Poldrack. Decoding cognitive processes from functional MRI. In *NIPS Workshop on Machine Learning and Interpretation in Neuroimaging*, 2013
20. Sreangsu Acharyya*, **Oluwasanmi Koyejo***, and Joydeep Ghosh. Learning to rank with Bregman divergences and monotone retargeting. In *Proceedings of the 28th conference on Uncertainty in Artificial Intelligence (UAI)*, 2012
21. **Oluwasanmi Koyejo** and Joydeep Ghosh. A kernel-based approach to exploiting interaction-networks in heterogeneous information sources for improved recommender systems. In *Proceedings of the 2nd International Workshop on Information Heterogeneity and Fusion in Recommender Systems, HetRec '11*, pages 9–16, New York, NY, USA, 2011. ACM
22. **Oluwasanmi Koyejo** and Joydeep Ghosh. MiPPS; a generative model for multi-manifold clustering. In *AAAI Fall Symposium on Manifold Learning and Its Applications*. AAAI Press, 2009

*Equal Contribution.

Thesis

23. **Oluwasanmi Koyejo**. *Constrained relative entropy minimization with applications to multitask learning*. PhD thesis, The University of Texas at Austin, May 2013

Peer-reviewed workshop papers

24. Rajiv Khanna, Joydeep Ghosh, Russell A. Poldrack, and **Oluwasanmi Koyejo**. A deflation method for probabilistic PCA. In *NIPS workshop on Advances in Approximate Bayesian Inference*, 2015
25. Shalmali Joshi, **Oluwasanmi Koyejo**, and Joydeep Ghosh. Constrained inference for multi-view clustering. In *ICML Workshop on Divergence Methods for Probabilistic Inference*, 2014
26. **Oluwasanmi Koyejo**, Sreangsu Acharyya, and Joydeep Ghosh. Ratings re-specification for rank ordered recommendations. In *UAI workshop on New Challenges in E-Commerce Recommendations*, 2013
27. **Oluwasanmi Koyejo** and Joydeep Ghosh. A representation approach for relative entropy minimization with expectation constraints. In *ICML workshop on Divergences and Divergence Learning (WDDL)*, 2013
28. **Oluwasanmi Koyejo** and Jeff Andrews. Capacity gains of multi-user diversity in a cellular downlink interference-limited environment. In *GAIN 2007 student conference*, February 2007

Peer-reviewed abstracts

29. James M Shine, **Oluwasanmi Koyejo**, Peter T Bell, Krzysztof J Gorgolewski, Moran Gilat, and Russell A Poldrack. Estimation of dynamic functional connectivity using multiplicative analytical coupling. *Organization for Human Brain Mapping (Abstract & Talk)*, 2015
30. Timothy Rubin, Michael N. Jones, **Oluwasanmi Koyejo**, and Tal Yarkoni. Large-scale functional mapping of brain activity using a joint spatial and semantic topic model. *Organization for Human Brain Mapping (Abstract)*, 2015
31. **Oluwasanmi Koyejo**, David Reese McKay, Emma E.M. Knowles, John Blangero, David Glahn, and Russell A. Poldrack. Exploratory analysis of imaging and behavioral phenotypes with sparse CCA. In *Organization for Human Brain Mapping (Abstract)*, 2014
32. Russell A. Poldrack, Timothy Laumann, Laurie Frick, **Oluwasanmi Koyejo**, Brenda Gregory, Ashleigh Hover, Mei-Yen Chen, Alex Huk, Sung Jun Joo, Evan Gordon, Avi Snyder, Babatunde Adeyemo, Daniel Handwerker, Jackson Liang, Ryan Boyd Zack Booth Simpson, Scott Hunicke-Smith, Thomas Caven, Edward Marcotte, Steven E. Petersen, and Jeanette A. Mumford. Extensive neurocognitive phenotyping of a single human: The MyConnectome project. In *Organization for Human Brain Mapping (Abstract)*, 2014

Academic Magazines & Proceedings

33. S. Ryali, T. Chen, B. Ng, and **O. Koyejo**. Message from program chairs: PRNI 2015. In *Pattern Recognition in NeuroImaging (PRNI), 2015 International Workshop on*, pages ix–ix, June 2015
34. **Oluwasanmi Koyejo**. Manifold learning and its applications: Reports of the AAAI 2010 fall symposia. *AI Magazine*, 32(1):93–100, 2011
35. Richard Souvenir and **Oluwasanmi Koyejo**. Manifold learning and its applications: Reports of the AAAI 2009 fall symposia. *AI Magazine*, 31(1):88–94, 2010

Submitted papers and working manuscripts

36. James M Shine, Peter T Bell, **Oluwasanmi Koyejo**, Krzysztof J Gorgolewski, Moran Gilat, and Russell A Poldrack. Dynamic fluctuations in integration and segregation within the human functional connectome. *arXiv:1511.02976*, 2015
37. Wesley Tansey, **Oluwasanmi Koyejo**, Russell A. Poldrack, and James G. Scott. False discovery rate smoothing. *arXiv:1411.6144*, 2014
38. Nagarajan Natarajan, **Oluwasanmi Koyejo**, Pradeep K Ravikumar, and Inderjit S Dhillon. Optimal decision-theoretic classification using non-decomposable performance metrics. *arXiv:1505.01802*, 2015
39. **Oluwasanmi Koyejo**, Cheng Lee, and Joydeep Ghosh. The trace norm constrained matrix-variate Gaussian process for multitask bipartite ranking. *arXiv:1302.2576*, 2013

Teaching experience

Teaching Assistant, tutor

2015	Nilearn course: decoding and functional connectivity	Stanford University
2008 - 2010	Senior design project	UT Austin
2008	Signals and systems	UT Austin
2007 - 2009	High school math	Austin partners in math (volunteer)
2006 - 2007	Senior design project	UT Austin
2004 - 2005	Signals and systems	New Jersey Institute of Technology
2002	Gear Up program	New Jersey Institute of Technology
2001	University learning center	New Jersey Institute of Technology

Awards & Honors

2014	Trainee award from the Organization for Human Brain Mapping (OHBM)
2013	Student paper award at the conference for Uncertainty in Artificial Intelligence (UAI)
2012	Travel award at the conference for Uncertainty in Artificial Intelligence (UAI)
2007	"Q" Award of excellence from Qualcomm
2006	"Q" Award of excellence from Qualcomm
2005	Outstanding NCE graduate award from NJIT
2005	Outstanding ECE graduate award from NJIT
2004 -	Phi Eta Sigma honors society
2004 -	Tau Beta Pi honors society
2004 -	Omicron Delta Kappa national leadership honors society
2003	Leadership award from NJIT
2001 - 2005	Albert Dorman honors college

Memberships and Affiliations

2014 -	Stanford Center for Mind, Brain and Computation
2013 -	Organization for Human Brain Mapping
2002 - 2013	Institute of Electrical and Electronics Engineers
2009 - 2011	Association for the Advancement of Artificial Intelligence

Professional Service

Program chair

2015	ICML Workshop on Statistics, Machine Learning and Neuroscience (Stamlins)
2015	International workshop on Pattern Recognition in Neuroimaging (PRNI)
2014	ICML workshop on Divergence Methods for Probabilistic Inference (DMPI)
2010	AAAI symposium on Manifold learning and its applications
2005 - 2007	UT Austin GEC GAIN Conference

Ad-hoc peer review

AISTATS 2016, NIPS 2015, OHBM Abstracts 2015-2016, Annals of Applied Statistics, Neuroimage, Statistics and Computing, STAT, SIAM International Conference on Data Mining 2010, Informa-

tion Sciences, INFORMS Journal on Computing,

Reading group, seminar host, other leadership

2012 WNCG seminar (student host)
 2012 Byteclub machine learning coding group
 2009 - 2010 Gnofai machine learning reading group
 2002 - 2003 NJIT Student Senate
 2003 - 2005 NJIT ECE student advisory board

Industry Positions

05/2010 - 05/2011	Research intern	Adometry (Acquired by Google, 2014)
05/2007 - 08/2007	QCT systems intern	Qualcomm Inc.
05/2006 - 08/2006	WTBU intern	Texas Instruments
05/2005 - 08/2005	Product engineering intern	Texas Instruments
02/2003 - 08/2004	Operations service center intern	Ei ³ corporation
06/2003 - 08/2008	Energy resources and trade intern	PSEG

Presentations

Symposium talks, departmental lectures and conference presentations

04/2015 Neuroimaging meta-analysis methods workshop, Neurospin, INRIA
 04/2015 ECE Seminar, University of Michigan, Ann Arbor
 03/2015 CS Special Seminar, University of Illinois at Urbana-Champaign
 02/2015 Information Theory and Applications Workshop (ITA)
 01/2015 Statistics and Machine Learning Group, Stanford University
 01/2015 Statistical Science Seminar Series, Duke University
 10/2014 Biostatistics seminar at University of North Carolina
 09/2014 Neurospin, INRIA
 09/2014 European conference on Machine Learning (ECML), France
 06/2014 ICML workshop on Divergence Methods for Probabilistic Inference (DMPI)
 06/2014 "Unconference" at Organization for Human Brain Mapping
 07/2013 Conference on Uncertainty in Artificial Intelligence
 07/2013 Workshop on New challenges in e-commerce recommendations
 06/2013 Workshop on Divergences and divergence learning
 06/2013 Pattern Recognition in Neuroimaging
 01/2013 Lawrence Livermore national lab
 12/2012 Adometry
 11/2012 Apple Inc.
 11/2011 International workshop on Information heterogeneity and fusion in recommender systems
 11/2010 Workshop on Manifold learning and its applications