Jewell B. Thomas

Durham, NC, USA

Analytical Skills: Summary

I have a broad range of technical and research skills that form the foundation for my research work: Python, Scala, SAS, R, C/++/#, Bash, CShell, Julia, Perl, Matlab, rapid prototyping, PostgreSQL, git, Hadoop/MapReduce/Spark, Amazon AWS, Unix, Solaris, Windows Server, robotics (integrated C); spatial statistics, mixed models, multiple regression, data mining (complex/convolutional neural network design; kNN, SVM, logistic regression, etc.), physical simulation design, PCA/ICA, ANCOVA, non-parametric statistics, GIS, study design, pharmaceutical trial design, survey analysis, mixed methods research, analytic hierarchy process, graph theory, social network analysis (gephi, igraph), time-series analysis; public speaking & presentation design, supervising & coaching research projects, technical and analytical writing.

Industry Appointments

2014 – 2016	Staff Data Scientist	MaxPoint Interactive
2011 – 2014	Programmer, J. Froderman	Catena, Inc.
2007	Informatics Intern, FL Hospital	Health Care Support, Inc.
2005 – 2006	Windows Programming Intern	Radixx Solutions, Inc.
2004 – 2005	Unix Programming Intern	Campus Crusade for Christ

Research Appointments

2010 – 2014	Programmer I, B. Ances, MD, PhD	Washington U. in St. Louis
2010	Research Technician I, B. Ances, MD, PhD	Washington U. in St. Louis
2009	SURF-CCSN Fellow, B. Ances, MD, PhD	Washington U. in St. Louis
2008 – 2010	Undergraduate RA, B. Ances, MD, PhD	Washington U. in St. Louis

Technical Summary

Research and development lead (2014-2016):

- Mentored 4 graduate students (research/programming/writing/presenting)
- 2 publications pending (1 senior author); 4 provisional patents
- Led design of internet-scale computational linguistics algorithms
- Designed large-scale signal processing frameworks (Python/Scala/Spark)
- Designed complex web applications (JavaScript, Python, PostgreSQL)

Independent contributor/researcher (2010-2014):

- 14 publications (4 first author, 5 second author); 530+ citations; i-10 index 14
- Mentored 3 undergraduate students
- Developed network analysis techniques and software

Education

2005 – 2010	BA	Pre-Medical; English Literature 3.94/4.0	Washington U. in St. Louis
2007 – 2008		English Literature (1 year visiting)	University of Oxford

Publications (Selected)

1. **Thomas, J.B.**, Brier, M.R., Ortega, M., Benzinger, T.L., Ances, B.M. (2015). Weighted brain networks in disease: centrality and entropy in human immunodeficiency virus and aging. *Neurobiology of Aging.*
2. **Thomas, J.B.***, Brier, M.R.*, Bateman, R.J., Snyder, A.Z., etc. (2014). Functional connectivity in autosomal dominant and late-onset Alzheimer disease. JAMA Neurology. *Co-first authors
3. **Thomas, J.B.,** Brier, M.R., Vaida, F.F., Snyder, AZ., Ances, BM. (2013). Pathways to Neurodegeneration: Effects of HIV and Aging on Resting State Functional Connectivity. *Neurology.*
4. Duchek, J.*, Balota, D.*, **Thomas, J.B.***, Morris, J., Ances, B.M. (*2013*). Loss of Intra-Network Resting State Functional Connections in the Default Mode Network Predicts Working Memory Performance Deficits. *Neuropsychologia*. *Co-first authors
5. Brier, M.R.**, Thomas, J.B.**, Ances, B.M. (2013). Functional connectivity and graph theory in preclinical Alzheimer's Disease. *Neurobiology of Aging.*
6. Ances, B.M., Benzinger, T.L., Christensen J.J., **Thomas, J.B.**, et al. (2012). C^{11} Imaging of Human Immunodeficiency Virus-Associated Neurocognitive Disorder. *Archives of Neurology*.
7. Wright, P.W., Heaps, J.M., Shimony, J.S., **Thomas, J.B.**, Ances, B.M. (2012). The effects of HIV and combination antiretroviral therapy on white matter integrity. *AIDS.*
8. Wang, L., Roe, C., Snyder, A.Z., Brier, M.R., **Thomas, J.B.,** Benzinger, T., Morris, J.C., Ances, B.M. (2012). Family History of Alzheimer's Disease Impacts Resting State Functional Connectivity in Cognitively Normal Individuals. *Annals of Neurology, In Press.*
9. Brier, M.R., **Thomas, J.B.**, Snyder, A.Z., Benzinger, A.M., Zhang, D., Raichle, M., Holtzman, D.M., Morris, J.C., Ances, B.M. (2012). Loss of Intra- and Inter-Network Resting State Functional Connections with Alzheimer's Disease Progression. *Journal of Neuroscience.*
10. Wang, L., Brier, M.R., Snyder, A.Z., **Thomas, J.B.**, Fagan, A.M., Xiong, C., Benzinger, T.L., Holtzman, D., Morris, J.C., Ances, B.M. (*2013*). Amyloid-β and Tau independently affect resting state functional connectivity in the default mode network of cognitively normal individuals. *JAMA Neurology.*
11. Arbelaez, A.M., Su, Y., **Thomas, J.B.,** Ances, B.M., Hershey, T. (2013) Arterial Spin-Labeling Quantification of Cerebral Blood Flow in Euglycemia and Hypoglycemia. *PLoS.*
12. Wang, L., Day, J., Roe, C.M., Brier, M.R**., Thomas, J.B.,** Benzinger, T.L., Morris, J.C., Ances, B.M. (*2013*). The APOE ε4 Allele Modulates the Effect of Donepezil on Resting State Functional Connectivity in Patients with AD. *Alzheimer's Disease and Associated Disorders*.
13. **Thomas, J.B.**, (2008). *"Keble Rowing: A History,"* in Keble: Past and Present. *Third Millenium Publishing.*

Patent Applications

1. **Thomas, J.B.**, Howes, J. (2017). Systems and Methods for Resolving Cross-Domain Identifiers from Multiple Traffic Data Sources. No. 15/397,802.
2. **Thomas, J.B.**, Howes, J. (2017). Systems and Methods for Bayesian Updating of Signal Strength Simulation for Tracking of a Location of a User Device to Map a Sensor Space. No. 15/397,807.
3. **Thomas, J.B.**, Howes, J. (2017). Systems and Methods for Bayesian Updating of Signal Strength Simulation for Tracking of a Location of a User Device to Map a Sensor Space. No. 15/397,809.
4. **Thomas, J.B.**, Howes, J. (2017). Systems and Methods for Automatic Customer Relationship Management Based on Tracking a Location of a User Device Within a Sensor Space. No. 15/397,814.

Conference Presentations

1. **Thomas, J.B.,** Wang, L., Anjilvel, S.I., Lowe, M.R., Optimization Algorithms in Computational Advertising. *SAMSI, 2016.*
2. **Thomas, J.B.**, HIV and Aging: New Graph Theoretical Models of rs-fcMRI. *Conference on Retroviruses and Opportunistic Infections, 2013.*
3. **Thomas J.B.**, Effects of HIV and Aging on Resting State Functional Connectivity. *American Academy of Neurology, 2013.*

Conference Posters (Selected)

1. Brier, M.R., **Thomas, J.B.**, Rubins, D., Morris, J., Ances, B.M. (2013). Graph Theoretical Analysis of Resting-State Functional Connectivity MRI in Alzheimer's Disease Detects Network Dysfunction Before Clinical Symptoms. *American Academy of Neurology 2013 Annual Meeting, San Diego, CA, March 14-16, 2013.*
2. **Thomas, J.B.**, Brier, M.R., Snyder, A.Z., Ances, B.M. (2012). Pathways to Neurodegeneration: The Effects of HIV & Aging on Resting State fcMRI. *American Neurology Association 2012 Annual Meeting, Boston, MA, October 7 – 9, 2012.*
3. **Thomas, J.B.**, Brier, M.R**.,** Snyder, A.Z., Ances, B.M. (2012). HIV and Aging Cause Independent Decreases in Resting State Functional Connectivity. *19th Conference on Retroviruses and Opportunistic Infections, March, 2012*.
4. **Thomas, J.B.**, Christensen, J., Venkat, R., Ortega, M., Teshome, M., Aldea, P., Morris, J., Benzinger, T. Ances, B. (2011). Amyloid Deposition is Not Increased in HIV+ Patients Using C11-PIB. *Conference on Retroviruses and Opportunistic Infections, March, 2011*.
5. **Thomas, J.B.**, Peng, H., Benzinger, T., Snyder, A., Clifford, D., Ances, B. (2010). Resting Cerebral Blood Flow as a Biomarker of HIV in the Brain. *ISMRM, 2010.*

Papers Not Yet Published

1. Ning, B., Ghoshal, S., **Thomas, J.B**. Bayesian Method for Causal Inference in High-Dimensional Time Series with Applications to Sales Data. Submitted.
2. Chen, X., Irie, K., Banks, D., Haslinger, R., **Thomas, J.B.,** West, M., Bayesian Dynamic Modeling and Analysis of Streaming Network Data. Submitted.

Awards

Honors	Washington U. in St. Louis	2010
Study Abroad With Distinction	Washington U. in St. Louis	2010
Phi Beta Kappa	Washington U. in St. Louis	2009
Dean's List	Washington U. in St. Louis	2005 – 2007
Eliot Scholar	Washington U. in St. Louis	2005 – 2010

Service to the Community

2015-2016	Duke DataFest	Volunteer
2011	Casa de Salud	Informatics consultant
2011-2012	iSkate	Volunteer Assistant