

Glen A. Coppersmith, Ph.D.

Curriculum Vitae

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Personal Information

Current Position: January 2015 – Present
Founder & CEO
Qntfy

Education

Northeastern University, Boston Massachusetts September 2000 – July 2008

B.S. Computer Science and Cognitive Psychology, *conferred December 2003.*

M.A. Experimental Psychology, Northeastern University, *conferred August 2006.*
Thesis: A Computational Investigation into the Relation between Syntax and Semantics

Ph.D. Experimental Psychology, Northeastern University, *conferred July 2008.*
Dissertation: A Computational Investigation into Maladaptive Aggression

Research Interests & Current Projects

- Data Science and Clinical Psychology – bringing principled data analytic, statistical pattern recognition, computational linguistic and visualization techniques to bear on mental health, psychological and psychiatric challenges
- Exploratory Data Analysis – principled analysis of disparate datasets (e.g., social media: human language with rich metadata), from noisy raw data to scalable algorithms to visualization and human interpretation and interaction of derivations
- Pragmatic, yet principled, solutions to real-world challenges. This often involves understanding the entire system (from raw data to human consumer) and finding clever ways to compensate for imperfect technologies.

Publications

- Glen Coppersmith, Casey Hilland, Ophir Frieder, Ryan Leary (2017) *Scalable Mental Health Analysis in the Clinical Whitespace via Natural Language Processing*. Biomedical and Health Informatics.
- Adrian Benton, Glen Coppersmith, Mark Dredze (2017) *Ethical Research Protocols for Social Media Health Research*. Association of Computational Linguistics Workshop on Ethics in NLP.
- Danielle Mowery, Hillary Smith, Tyler Cheney, Greg Stoddard, Glen Coppersmith, Craig Bryan, and Mike Conway (*in press*) *Understanding Depressive Symptoms and Psychosocial Stressors on Twitter: A Corpus-Based Study*. Journal of Medical Internet Research.
- Glen Coppersmith, Kim Ngo, Ryan Leary, Anthony Wood (2016) *Exploratory Analysis of Social Media Prior to a Suicide Attempt*. Association of Computation Linguistics Workshop on Computational Linguistics and Clinical Psychology [CLPsych2016].
- Glen Coppersmith, Kristy Hollingshead, H. Andrew Schwartz, Molly Ireland, Rebecca Resnik, Kate Loveys, April Foreman, Loring Ingraham (2016). *The Clinical Panel: Leveraging Psychological Expertise During NLP Research*. In Proceedings of Conference on Empirical Methods in Natural Language Processing 2016, NLP+CSS Workshop [EMNLP2016].
- Anthony Wood, Jessica Shiffman, Ryan Leary, Glen Coppersmith (2016) *Language Signals Preceding Suicide Attempts*. Computer Human Interaction [CHI2016].
- Munmun De Choudhury, Emre Kiciman, Mark Dredze, Glen Coppersmith, Mrinal Kumar (2016) *Discovering Shifts to Suicidal Ideation from Mental Health Content in Social Media*. Computer Human Interaction [CHI2016].
- Glen Coppersmith, Ryan Leary, Eric Whyne, Tony Wood (2015) *Quantifying Suicidal Ideation via Social Media*. Joint Statistical Meetings [JSM2015].

- Margaret Mitchell, Kristy Hollingshead, Glen Coppersmith (2015) Organizers of the *Computational Linguistics and Clinical Psychology Workshop*. Accepted to the North American meeting of the Association for Computational Linguistics (NAACL) [CLPsych 2015].
- Elizabeth Hohman, David Marchette, Glen Coppersmith (2014) *Validating Signals extracted from Social Media via County-level Demographics*. Joint Statistical Meetings [JSM2014].
- Glen Coppersmith, Craig T. Harman, Mark H. Dredze (2014) *Quantifying Mental Health Signals in Twitter*. Association for Computational Linguistics Workshop on Computational Linguistics and Clinical Psychology [ACL2014].
- Glen Coppersmith, Erin L. Kelly (2014). *Dynamic Wordclouds and Vennclouds for Exploratory Data Analysis*. Association for Computational Linguistics Workshop on Interactive Language Learning, Visualization, and Interfaces [ACL2014].
- Svitlana Volkova, Glen Coppersmith, Benjamin Van Durme (2014) *Inferring User Political Preferences from Streaming Communications*. Association for Computational Linguistics [ACL2014].
- Glen Coppersmith (2014) *Vertex Nomination*. Wiley Interdisciplinary Reviews.
- Glen Coppersmith, Mark H. Dredze, Craig T. Harman (2014) *Measuring Post Traumatic Stress Disorder in Twitter*. International Conference on Weblogs and Social Media [ICWSM2014].
- Shuai Huang, Glen Coppersmith (2013). *Discriminative Feature Extraction for Language Identification*. Acoustics, Speech and Signal Processing (ICASSP), IEEE [ICASSP2013].
- Shuai Huang, Glen Coppersmith, Damianos Karakos (2012). *Constrained Maximum Mutual Information Dimensionality Reduction for Language Identification*. Interspeech 2012 [Interspeech2012].
- Glen Coppersmith (2012). *Vertex Nomination: Improved Fusion of Content and Context*. Interface Foundation of North America [Interface2012].

- Joshua T. Vogelstein, William R. Gray, Jason G. Martin, Glen Coppersmith, Mark H. Dredze, J. Bogovic, J. L. Prince, S. M. Resnick, Carey E. Priebe, R. Jacob Vogelstein (2011). *Connectome Classification using Statistical Graph Theory and Machine Learning*. Society for Neuroscience [SfN2011].
- Shuai Huang, Damianos Karakos, Kenneth W. Church and Glen Coppersmith (2011). *Bootstrapping a Spoken Language Identification System Using Unsupervised Integrated Sensing and Processing Decision Trees*. Applied Statistical Methods in Recognition [ASRU2011].
- Carey E. Priebe, David J. Marchette, and Glen Coppersmith (2011). *Vertex Nomination: Finding Similar Vertices in Communications Graphs Attributed with Human Language*. Joint Statistical Meetings [JSM2011].
- Glen Coppersmith (2011). *Vertex Nomination: Finding Similar Vertices in Communications Graphs Attributed with Human Language*. Interface Foundation of North America [Interface2011].
- Nash M. Borges, Glen Coppersmith, Gerard G. L. Meyer, and Carey E. Priebe (2011). *Anomaly Detection for Random Graphs using Distributions of Vertex Invariants*. In Proceedings of Conference on Information Sciences and Systems [CISS2011].
- Delip Rao, Michael Paul, Clay Fink, David Yarowsky, Timothy Oates, and Glen Coppersmith (2011). *Hierarchical Bayesian Models for Latent Attribute Detection in Social Media*. In Proceedings of AAAI International Conference on Weblogs and Social Media 2011 [ICWSM2011].
- Mark H. Dredze, Aren Jansen, Glen Coppersmith, and Kenneth W. Church (2010). *Speech Corpora Analysis Using Unsupervised Spoken Term Discovery*. In Proceedings of Conference on Empirical Methods in Natural Language Processing 2010 [EMNLP2010].
- Glen Coppersmith (2010). *Detecting Anomalies and Estimating Anomaly Characteristics in Time-Series of Graphs*. Interface Foundation of North America [Interface2010].

Henry Pao, Glen Coppersmith, and Carey E. Priebe. (2010). *Statistical inference on random graphs: comparative power analyses via Monte Carlo*. Journal for Computational and Graph Statistics.

Carey E. Priebe, Zhiliang Ma, David J. Marchette, Elizabeth Hohman, and Glen Coppersmith (2009). *Fusion and inference from multiple data sources*. 57th International Statistics Institute [ISI2009].

Maria C. Carrillo, Lesley A. Ricci, Glen Coppersmith, and Richard H. Melloni Jr. (2009). The effect on increased serotonergic neurotransmission on aggression: a critical meta-analytic review of preclinical studies. *Psychopharmacology*.

Glen Coppersmith (2008). A Computational Investigation into Maladaptive Aggression (Doctoral Dissertation).

Glen Coppersmith, Daniel F. Connor, and Richard H. Melloni Jr. (2007). A Computational Investigation to Predict Maladaptive Aggression. Presented at NEURON fall conference 2007 [NEURON2007].

Manuscripts Under Review And In Preparation

Kristy Hollingshead, H. Andrew Schwartz and Glen Coppersmith, *Technical Report: Detecting Risk and Protective Factors of Mental Health using Social Media Linked with Electronic Health Records*. Jelinek Memorial Workshop at Johns Hopkins University.

Efsun Kayi, Glen Coppersmith, and Mona Diab: *Predicting Schizophrenia based on Linguistic Features*.

Glen Coppersmith, *Position Paper: Scalable and Quantifiable Mental Health in the Data-driven Age*.

Steven Bedrick, Margaret Mitchell, Philip Resnik, Rebecca Resnik, and Glen Coppersmith, *Review: Computational Linguistics and Clinical Psychology*.

Technical Reports

Glen Coppersmith and Craig Harman, *VaporEngine: Getting Something from Nothing -- Active Learning and Topic Exploration of Untranscribed Speech*, Human Language Technology Center of Excellence Technical Report Series. November 2014.

Glen Coppersmith and James P. Dennis, *Arbre: An Experimental Framework*, Human Language Technology Center of Excellence Technical Report Series. January 2011.

Glen Coppersmith, Richard V. Cox, Allen L. Gorin, and Carey E. Priebe, *Problem Book for SCALE 2011, Vertex Nomination*. Human Language Technology Center of Excellence Technical Report Series. January 2011.

Glen Coppersmith, *Statistical Inference on Bipartite Random Graphs: Comparative Power Analyses via Monte Carlo*. Human Language Technology Center of Excellence Technical Report Series. February 2010.

Kathy Baker, Steven Bethard, Michael Bloodgood, Ralf Brown, Chris Callison-Burch, Glen Coppersmith, Bonnie Dorr, Wes Filardo, Kendall Giles, Anne Irvine, Mike Kayser, Lori Levin, Justin Martineau, Jim Mayfield, Scott Miller, Aaron Phillips, Andrew Philpot, Christine Piatko, Lane Schwartz, David Zajic, *Semantically Informed Machine Translation*. Human Language Technology Center of Excellence Technical Report Series. January 2010.

Invited Talks

Georgetown University	February 2017
George Mason University	January 2017
MIT-Lincoln Labs Human Language Technology Applications	October 2016
White House Open Data Innovation Summit	September 2016
Suicide Prevention on Social Media (#SPSM) 2016	September
Stop Texas Suicides	August 2016
DARPA Workshop on the Neuroscience of Radicalization	August 2016
Eastern Foundry: Foundry Cup	June 2016
Johns Hopkins Applied Physics Lab	March 2016
Leveraging Data to Lead	November 2015
Data for Social Good (Big Boulder Institute)	November 2015
National Alliance on Mental Illness, Connecticut	October 2015
Government Health IT Summit	October 2015

Association of United States Army	September 2015
Institute for Defense Analyses	August 2015
Eastern Foundry: Foundry Cup	June 2015
Suicide Prevention on Social Media (#SPSM)	June 2015
Suicide Prevention on Social Media (#SPSM)	February 2015
University of Pennsylvania (World Well-Being Project)	October 2014
University of Pennsylvania (Computational Linguistics)	October 2014
Georgia Tech	October 2014
Institute for Defense Analyses 2014	September
University of Maryland 2014	September
Department of Veterans Affairs	September 2014
Psyber Symposium	August 2014
Dalhousie University	March 2014
MIT-Lincoln Labs: Graph Exploitation Symposium	April 2013
JHU Applied Physics Lab 'Discovery'	April 2013
MIT-Lincoln Labs: Human Language Technology Applications	October 2012
Dahlgren Naval Surface Warfare Division	August 2011
Yap Research Conference	March 2011
Loyola College: Association for Computing Machinery	February 2011
Center for Applied Neuroscience	September 2010
Northeastern University: Association for Computing Machinery	March 2004

Service

Program Committee, <i>WSDM: Mining Online Health Reports</i>	2017
Judge, <i>Veterans Affairs Hackathon on Suicide Prevention</i>	2016
Poster Session Judge, <i>American Association of Suicidology</i>	2016
Advisory Board, <i>OurDataHelps.org</i>	2016 - Present
Co-lead, <i>Frederick Jelinek Memorial Workshop at Johns Hopkins University Center for Language and Speech Processing</i>	2016
Program Committee, <i>Computational Linguistics and Clinical Psychology</i>	2016
Organizer, <i>Computational Linguistics and Clinical Psychology</i>	2015
Lead, <i>Computational Linguistics and Clinical Psychology Shared Task</i>	2015
Lead, <i>Computational Linguistics and Clinical Psychology Hack-a-thon</i>	2014
Group Lead, <i>HLTCOE SCALE Workshop</i>	2012
Lead, <i>HLTCOE SCALE Workshop</i>	2011
Committee Member, <i>HLTCOE Hiring Committee</i>	2009 - 2014
Reviewer, <i>Wiley Interdisciplinary Reviews</i>	2013 - Present
Reviewer, <i>Journal of Computation and Graph Statistics</i>	2009 - Present
Reviewer, <i>Communications in Statistics: Theory and Methods</i>	2010 - Present

Teaching

Co-Advising

Shuai Huang (Electrical and Computer Engineering).
Svitlana Volkova (Computer Science).

Graduate

Programming Primer for Python (2007).
Artificial Intelligence and Machine Learning (2006).

Undergraduate

Food, Behavior, and Eating Disorders (Teaching Assistant; 2008).
Directed Study for the Neurobiology of Aggression (Teaching Assistant; 2007).
Statistics for the Social Sciences (Teaching Assistant; 2005, 2006, 2007).
Introduction to Psychology (Teaching Assistant; 2005).