

BIOGRAPHICAL SKETCH: Matthew S. Gerber

Professional Preparation

Institution	Location	Major	Degree / Year
Ohio Northern University	Ada, Ohio, USA	Computer Science	B.S. / 2005
Michigan State University	East Lansing, Michigan, USA	Computer Science	Ph.D. / 2011

Appointments

2014-Present Assistant Professor of Systems and Information Engineering, University of Virginia.

2011-2014 Research Assistant Professor of Systems and Information Engineering, University of Virginia.

2011-2014 Software Engineer, Commonwealth Computer Research, Inc.

2010-2011 Visiting Instructor of Computing and Information Systems, Grand Valley State University.

Products

Most Closely Related to the Proposed Project

1. H. Xiong, Y. Huang, L. E. Barnes, and M. S. Gerber. Sensus: A Cross-Platform, General-Purpose System for Mobile Crowdsensing in Human-Subject Studies. In Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing, pages 415-426. Heidelberg, Germany. September, 2016. <http://dl.acm.org/citation.cfm?id=2971711>
2. M. S. Gerber. Predicting Crime Using Twitter and Kernel Density Estimation. In Decision Support Systems (Elsevier), volume 61, pages 115-125, 2014. <http://www.sciencedirect.com/science/article/pii/S0167923614000268>
3. J. R. Scanlon and M. S. Gerber. Automatic Detection of Cyber-Recruitment by Violent Extremists. In Security Informatics (Springer), volume 3 (1), pages 1-10, 2014. <http://link.springer.com/article/10.1186/s13388-014-0005-5>
4. X. Wang, D. E. Brown, and M. S. Gerber. Spatio-Temporal Modeling of Criminal Incidents Using Geographic, Demographic, and Twitter-derived Information. In Lecture Notes in Computer Science: Intelligence and Security Informatics, pages 36-41. IEEE, 2012. <http://dx.doi.org/10.1109/ISI.2012.6284088>
5. Software: The Sensus system for crowd sensing via mobile devices. Available at <https://github.com/predictive-technology-laboratory/sensus/wiki>

Others of Significance

1. M. Wang and M. S. Gerber. Using Twitter for Next-Place Prediction, with an Application to Crime Prediction. In Proceedings of the 2015 IEEE Symposium Series on Computational Intelligence, pages 941-948, Cape Town, South Africa. December, 2015.
2. M. S. Gerber and Lu Tang. Automatic Quality Control of Transportation Reports using Statistical Language Processing. In Transactions on Intelligent Transportation Systems (IEEE), volume 14 (4), pages 1681-1689, 2013. http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=6545322

3. M. S. Gerber, D. E. Brown, and J. H. Harrison. Automatic Formalization of Clinical Practice Guidelines. In Proceedings of the AAAI Fall Symposium on Information Retrieval and Knowledge Discovery in Biomedical Text. Arlington, Virginia, USA. November, 2012. http://ptl.sys.virginia.edu/ptl/sites/default/files/irkd_gerber.pdf
4. M. S. Gerber and J. Y. Chai. Beyond NomBank: A Study of Implicit Arguments for Nominal Predicates. In Proceedings of the 48th Annual Meeting of the Association for Computational Linguistics, pages 1583-1592. Uppsala, Sweden. July, 2010. <http://dl.acm.org/citation.cfm?id=1858841>
5. Software: The Asymmetric Threat Tracking system for spatiotemporal crime analysis. Available at <http://matthewgerber.github.io/asymmetric-threat-tracker>

Synergistic Activities

1. Judge, Virginia Piedmont Regional Science Fair, Charlottesville, Virginia, USA, 2014, 2015.
2. Co-Chair, Workshop on Data Science Methods for Consequence Management of Cyber-Physical Systems, Charlottesville, Virginia, USA, 2014. Organized in collaboration with the United States Department of Homeland Security.
3. Discussion Leader, Crime Prediction via Social Media, Science Straight Up (a public science forum that encourages members of the Charlottesville, VA community to interact with UVa researchers), Charlottesville, Virginia, USA, 2014.
4. Mentor in the faculty-student mentoring program run by the University of Virginia Office of African American Affairs. 2012.