GARY M. WEISS

Professor
Department of Computer and Information Science
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Areas of Research Interest

Data Mining, Educational Data Mining, Class Imbalance, Ubiquitous Computing, Activity Recognition, Biometrics.

Professional Experience

Department of Computer & Information Science, Fordham University

Professor	2020 – present
Associate Professor	2012 – 2020
Assistant Professor	2004 – 2012

AT&T Laboratories

Senior Member of Technical Staff, AT&T Laboratories	1995 – 2004
Member of Technical Staff, AT&T Laboratories	1985 – 1995

Education

RUTGERS, THE SATE UNIVERSITY OF NEW JERSEY — New Brunswick, NJ
Ph.D., Computer Science⎯ May 2003
Dissertation: *The Effect of Small Disjuncts and Class Distribution on Decision Tree Learning*

STANFORD UNIVERSITY — Stanford, CA
Master of Science, Computer Science⎯September 1986

CORNELL UNIVERSITY — Ithaca, NY
Bachelor of Science, Computer Science, with distinction⎯May 1985

Publications

(Publications are available electronically from https://storm.cis.fordham.edu/~gweiss/publications.html)

Journal Articles:

G.M. Weiss, K. Yoneda, and T. Hayajneh. Smartphone and Smartwatch-Based Biometrics Using Activities of Daily Living. *IEEE Access*, 7:133190-133202, Sept. 2019.

A. Alhayajneh, A.N. Baccarini, G.M. Weiss, T. Hayajneh, and A. Farajidavar. Biometric Authentication and Verification for Medical Cyber Physical Systems, *Electronics*, 7(12), 436, 2018.

Y. Hao, G.M. Weiss, and S. Brown. Identification of Candidate Genes Responsible for Age-related Macular Degeneration using Microarray Data. *International Journal of Service Science, Management, Engineering, and Technology*, 9(2): 33-60, 2018.

MZA Bhuiyan, J. Wu, G.M. Weiss, T. Hayajneh, T. Wang, and G. Wang. Event Detection through Differential Pattern Mining in Cyber-Physical Systems. *IEEE Transactions on Big Data*, 2017.

G.M. Weiss. Smartphone Sensor Mining Research: Successes and Lessons. *CUR Quarterly*, 34(2):17-21, December 2013.

G.M. Weiss. The Impact of Small Disjuncts on Classifier Learning. *Annals of Information Systems*, 8:193-226, January 2010.

G.M. Weiss and Y. Tian. Maximizing Classifier Performance when there are Data Acquisition and Modeling Costs. *Data Mining and Knowledge Discovery*, 17(2), 253-282, October 2008.

G.M. Weiss and F. Provost. Learning when Training Data are Costly: The Effect of Class Distribution on Tree Induction. *Journal of Artificial Intelligence Research*, 19: 315-354, October 2003.

G.M. Weiss and J. Ros. Implementing Design Patterns with Objected-Oriented Rules. *Journal of Object-Oriented Programming*, 11(7): 25-35, November 1998.

Academic Magazine Research Articles

J.R. Kwapisz, G.M. Weiss and S.A. Moore. Activity Recognition using Cell Phone Accelerometers. *ACM SIGKDD Explorations*, 12(2):74-82, December 2010.

G.M. Weiss and Y. Tian. Maximizing Classifier Utility when Training Data is Costly. *SIGKDD Explorations*, 8(2): 31-38, December 2006.

G.M. Weiss. Mining with Rarity: A Unifying Framework. *SIGKDD Explorations*, 6(1):7-19, June 2004.

Books

D.M. Lyons, C. Papadakis-Kanaris, G.M. Weiss, A.G. Werschulz. *Fundamentals of Discrete Structures 2nd edition*, Pearson Learning Solutions. 2012 (1st edition 2010).

Contributed Book Chapters:

Y. Ren, and G.M. Weiss. A Comparison of Important Features for Predicting Polish and Chinese Corporate Bankruptcies, In Advances in Data Science and Information Engineering. Transactions on Computational Science and Computational Intelligence. Springer, Cham, 187-198, 2021.

F. Khan, G.M. Weiss, and D.D. Leeds. Predicting the Academic Performance of Undergraduate Computer Science Students Using Data Mining. In: Arabnia H.R., Deligiannidis L., Tinetti F.G., Tran QN. (eds) Advances in Software Engineering, Education, and e-Learning. Transactions on Computational Science and Computational Intelligence. Springer, Cham, 303-317, 2021.

G.M. Weiss and MZA Bhuyian. An Overview of Wearable Computing. In H.M. Ammari (ed.), Mission-Oriented Sensor Networks and Systems: Art and Science, Studies in Systems, Decision and Control, vol 164, Springer, 313-349, 2019.

MZA Bhuyian, G.M. Weiss, T. Wang, and G. Min. Mobile Target Tracking with Multiple Objectives in Wireless Sensor Networks. In H.M. Ammari (ed.), Mission-Oriented Sensor Networks and Systems: Art and Science, Studies in Systems, Decision and Control, vol 163, Springer, 437-495, 2019.

Yuhan Hao, Gary M. Weiss, and Stuart M. Brown. Identification of Candidate Genes Responsible for Age-Related Macular Degeneration Using Microarray Data. *Biotechnology: Concepts, Methodologies, Tools, and Applications, Chapter 38*, IGI Global, 969-1001. (reprint of previous work)

M. Abou-Nasr, S. Lessman, R. Stahlbock, and G.M. Weiss. Introduction. In *Real World Data Mining Applications (Annals of Information Systems, Vol. 17)*, Springer, 1-14, 2015.

G.M. Weiss. Foundations of Imbalanced Learning. In H. He and Y. Ma (eds.), *Imbalanced Learning: Foundations, Algorithms and Applications*, Wiley-IEEE Press, 13-41, 2013.

G.M. Weiss and B. Davison. Data Mining. In H. Bigdoli (ed.), *Handbook of Technology Management*, John Wiley and Sons, Volume 2, 542-555, 2010.

G.M. Weiss. Data Mining in the Telecommunications Industry. In J. Wang (ed.), *Encyclopedia of Data Warehousing and Mining, Second Edition*, Information Science Publishing, Volume 1, 486-491, 2008.

T. Dasu and G.M. Weiss. Mining Data Streams. In J. Wang (ed.), *Encyclopedia of Data Warehousing and Mining, Second Edition*, Information Science Publishing, Volume 3, 1248-1256, 2008.

G.M. Weiss. Mining Rare Cases. In O. Maimon and L. Rokach (eds.), *Data Mining and Knowledge Discovery Handbook: A Complete Guide for Practitioners and Researchers*, Kluwer Academic Publishers, 765-776, 2005.

G.M. Weiss. Data Mining in Telecommunications. In O. Maimon and L. Rokach (eds.), *Data Mining and Knowledge Discovery Handbook: A Complete Guide for Practitioners and Researchers*, Kluwer Academic Publishers, 1189-1201, 2005.

G.M. Weiss. Predicting Telecommunication Equipment Failures from Sequences of Network Alarms. In W. Kloesgen and J. Zytkow (eds.), *Handbook of Data Mining and Knowledge Discovery*, Oxford University Press, 891-896, 2002.

G.M. Weiss, J. Eddy, and S. Weiss. Intelligent Telecommunication Technologies. In *Knowledge-Based Intelligent Techniques in Industry*, Chapter 8, L. C. Jain, editor, CRC Press, 1998.

Peer-Reviewed Conference Papers:

G.M. Weiss, E. Brown, M. Riad-Zaky, R. Iannone, and D.D. Leeds. Assessing Instructor Effectiveness Based on Future Student Performance, *Proceedings of The 15th International Conference on Educational Data Mining (EDM22)*, Durham, UK, 2022, 616-620.

G.M. Weiss, J. Denham, and D.D. Leeds. The Impact of Semester Gaps on Student Grades, *Proceedings of The 15th International Conference on Educational Data Mining (EDM22)*, Durham, UK, 2022, 612-615.

D.D. Leeds, C. Chen, Y. Zhao, F. Metla, J. Guest, and G.M. Weiss. Generalized Sequential Pattern Mining of Undergraduate Courses, *Proceedings of The 15th International Conference on Educational Data Mining (EDM22)*, Durham, UK, 2022, 629-633.

G.M. Weiss, N. Nguyen, K. Dominguez, and D.D. Leeds. Identifying Hubs in Undergraduate Course Networks Based on Scaled Co-Enrollments, *Proceedings of The 14th International Conference on Educational Data Mining (EDM21)*, Paris, France, 809-813, 2021.

T. Gutenbrunner, D.D. Leeds, S. Ross, M. Riad-Zaky, and G.M. Weiss. Measuring the Academic Impact of Course Sequencing using Student Grade Data, *Proceedings of The 14th International Conference on Educational Data Mining (EDM21)*, Paris, France, 799-803, 2021.

D.D. Leeds, T. Zhang, and G.M. Weiss. Mining Course Groupings using Academic Performance, *Proceedings of The 14th International Conference on Educational Data Mining (EDM21)*, Paris, France, 804-808, 2021.

S. Stein, G.M. Weiss, Y. Chen, and D.D. Leeds. A College Major Recommendation System, *Proceedings of the Fourteenth ACM Conference on Recommender Systems*, ACM Press, 2020.

Y. Zhao, Q. Xu, M. Chen, and G.M. Weiss. Predicting Student Performance in a Master of Data Science Program using Admissions Data, *Proceedings of the 13th International Conference on Educational Data Mining (EDM 2020)*, 325-333, 2020.

R.M. Tischio, and G.M. Weiss. Identifying Classification Algorithms Most Suitable for Imbalanced Data, *Proceedings of the 15th International Conference on Data Science*, Las Vegas, NV, 106-111, 2019.

M. Musaelian, MZA Bhuiyan, G.M. Weiss, T. Wang, A. Zaman, and T. Hayajneh. Data Science and Security in Digital Governance Aspects and an Elastic Bus Transportation Scheme, *Proceedings of the 15th International Conference on Data Science*, Las Vegas, NV, 84-89, 2019.

X. Lai, and G.M. Weiss. RNN as a Multivariate Arrival Process Model: Modeling and Predicting Taxi Trips. In *Proc. 14th International Conference on Data Science*, Las Vegas, NV, 105-111, 2018.

E.N. Harry, and G.M. Weiss. Assessment of Minorities Access to Finance. In *Proc.14th International Conference on Data Science*, Las Vegas, NV, 123-129, 2018.

A.H. Johnston, and G.M. Weiss. Identifying Sunni Extremist Propaganda with Deep Learning. In *Proc. 2017 IEEE Symposium Series on Computational Intelligence*, Honolulu, Hawaii, 2017.

K. Yoneda, and G.M. Weiss. Mobile Sensor-based Biometrics using Common Daily Activities. In *Proc. 8th IEEE Annual Ubiquitous Computing, Electronics & Mobile Communication Conference*, New York, NY, 584-590, 2017.

F. Ciuffo and G.M. Weiss. Smartwatch-Based Transcription Biometrics. In *Proc.8th IEEE Annual Ubiquitous Computing, Electronics & Mobile Communication Conference*, New York, NY, 145-149, 2017.

MZA Bhuiyan, T. Wang, T. Hayajneh, and G.M. Weiss. Maintaining the Balance between Privacy and Data Integrity in Internet of Things. In *Proc. 2017 International Conference on Management Engineering, Software Engineering and Service Sciences*, Wuhan, China, 177-182, 2017.

G.M. Weiss, J.W. Lockhart, T.T. Pulickal, P.T. McHugh, I.H. Ronan, and J.L. Timko. Actitracker: A Smartphone-based Activity Recognition System for Improving Health and Well-Being. In *Proc. IEEE 3rd IEEE International Conference on Data Science and Advanced Analytics*, Montreal, Canada, 2016.

G.M. Weiss, J.L. Timko, C.M. Gallagher, K. Yoneda, and A.J. Schreiber. Smartwatch-based Activity Recognition: A Machine Learning Approach. In *Proc. 2016 IEEE International Conference on Biomedical and Health Informatics*, Las Vegas, NV, 426-429, 2016.

Y. Hao and G.M. Weiss. Gene Selection from Microarray Data for Age-related Macular Degeneration by Data Mining. In *Proc. 2016 International Conference on Data Mining*, Las Vegas, NV, 125-129, 2016.

A.H. Johnston and G.M. Weiss. Smartwatch-Based Gait Recognition. In *Proc. 7th IEEE International Conference on Biometrics: Theory, Applications and Systems*, Washington DC, 1-6, 2015.

J.W. Lockhart and G.M. Weiss. The Benefits of Personalized Models for Smartphone-Based Activity Recognition. In *Proc. 2014 SIAM International Conference on Data Mining*, Philadelphia, PA, 614-622, 2014.

G.M. Weiss and A. Battistin. Generating Well-Behaved Learning Curves: An Empirical Study. In *Proc.10th International Conference on Data Mining*, Las Vegas, NV, 210-213, 2014.

J.R. Kwapisz, G.M. Weiss and S.A. Moore. Cell Phone-Based Biometric Identification. In *Proc.IEEE 4th International Conference on Biometrics: Theory, Applications and Systems*, Washington D.C., 2010.

J. Xue and G.M. Weiss. Quantification and Semi-Supervised Classification Methods for Handling Changes in Class Distribution. In *Proc. 15th ACM SIGKDD Conference on Knowledge Discovery and Data Mining)*, ACM Press, 897-905, 2009.

Y. Tian, G.M. Weiss, D.F. Hsu and Q. Ma. A Combinatorial Fusion Method for Feature Construction. In *Proc. 2009 International Conference on Data Mining*, CSREA Press, 260-266, 2009.

G.M. Weiss. Data Mining in the Real World: Experiences, Challenges, and Recommendations. In *Proc. 2009 International Conference on Data Mining*, CSREA Press, 124-130, 2009.

S. Moore, D. D'Addario, J. Kurinskas, and G.M. Weiss. Are Decision Trees Always Greener on the Open (Source) Side of the Fence? In *Proc. 2009 International Conference on Data Mining*, CSREA Press, 185-188, 2009.

G.M. Weiss, K. McCarthy, and B. Zabar. Cost-sensitive Learning vs. Sampling: Which is best for Handling Unbalanced Classes with Unequal Error Costs? In *Proc. 2007 International Conference on Data Mining*, CSREA Press, 35-41, 2007.

G.M. Weiss and H. Hirsh. A Quantitative Study of Small Disjuncts. In *Proc. 7th National Conference on Artificial Intelligence*. AAAI Press, Menlo Park, CA, 665-670, 2000.

G.M. Weiss. Timeweaver: A Genetic Algorithm for Identifying Predictive Patterns in Sequences of Events. In *Proc. Genetic and Evolutionary Computation Conference*, Morgan Kaufmann, San Francisco, CA, 718-725, 1999.

G.M. Weiss and H. Hirsh. Learning to Predict Rare Events in Event Sequences. In *Proc. 4th International Conference on Knowledge Discovery and Data Mining,* AAAI Press, Menlo Park, CA, 359-363, 1998.

G.M. Weiss. ANSWER: Network Monitoring Using Object-Oriented Rules. In *Proc. 10th Conference on Innovative Applications of Artificial Intelligence*, AAAI Press, 1087-1093, 1998.

G.M. Weiss and H. Hirsh. The Problem with Noise and Small Disjuncts. *In Proc. of the 15th International Conference on Machine Learning*, Morgan Kaufmann, 574-578, 1998.

D. Dvorak, A. Mishra, J. Ros, G.M. Weiss and D. Litman. Using Rules in Object-Oriented Designs. In *Addendum Object-Oriented Programming Systems, Languages and Applications*, San Jose, CA, 1996.

G.M. Weiss. Learning with Rare Cases and Small Disjuncts. In *Proc. 12th International Conference on Machine Learning*, Morgan Kaufmann, 558-565, 1995.

Edited Works:

R. Stahlbock, G.M. Weiss, M. Abou-Nasr, C-Y Yang, H.R. Arabnia, L. Deligiannidis, editors. Advances in Data Science and Information Engineering: Proceedings from ICDATA 2020 and IKE 2020. Advances in Data Science and Information Engineering, Springer, Cham, 2021.

R. Stahlbock, G.M. Weiss, and M. Abou-Nasr, *editors. Proceedings of the 20l9 International Conference on Data Science (ICDATA '19)*, CSREA Press, Las Vegas, NV, July 2019.

L. Torgo, S. Matwin, G.M. Weiss, N. Moniz, P. Branco, *editors. Proceedings of The International Workshop on Cost-Sensitive Learning* (published as *Proceedings of Machine Learning Research PMLR*): Vol. 88, May 5, 2018.

R. Stahlbock, G.M. Weiss, and M. Abou-Nasr, *editors. Proceedings of the 20l8 International Conference on Data Science (ICDATA '18)*, CSREA Press, Las Vegas, NV, July 2018.

P. Geczy, R. Stahlbock, G.M. Weiss, M. Abou-Nasr, D. Baglee, and C. Bowerman, *editors. Special issue on Back Stage Techniques in Servitization, International Journal of Service Science, Management, Engineering, and Technology*, 9(2), 2018.

R. Stahlbock, M. Abou-Nasr, and G.M. Weiss, *editors. Proceedings of the 20l7 International Conference on Data Mining*, CSREA Press, Las Vegas, NV, July 2017.

R. Stahlbock and G.M. Weiss, *editors*, M. Abou-Nasr, H.R. Arabnia, D. Galar, P. Geczy, *assoc. editors. Proceedings of the 2016 International Conference on Data Mining*, CSREA Press, July 2016.

R. Stahlbock and G.M. Weiss, *editors*, M. Abou-Nasr, H.R. Arabnia, *assoc. editors*. *Proceedings of the 2015 International Conference on Data Mining*, CSREA Press, July 2015.

M. Abou-Nasr, S. Lessman, R. Stahlbock, and G.M. Weiss, *editors*. *Real World Data Mining Applications* (*Annals of Information Systems Vol. 17*), Springer. 2015.

R. Stahlbock and G.M. Weiss, *editors*, M. Abou-Nasr, H.R. Arabnia, *assoc. editors*. *Proceedings of the 2014 International Conference on Data Mining*, CSREA Press, July 2014.

R. Stahlbock and G.M. Weiss, *editors*, M. Abou-Nasr, H.R. Arabnia, *assoc. editors*. *Proceedings of the 2013 International Conference on Data Mining*, CSREA Press, July 2013.

R. Stahlbock and G.M. Weiss, *editors*, M. Abou-Nasr, H.R. Arabnia, *assoc. editors*. *Proceedings of the 2012 International Conference on Data Mining*, CSREA Press, July 2012.

R. Stahlbock, *editor*, M. Abou-Nasr, H. Arabnia, N. Kourentzes, P. Lenca, W. Lippe, G.M. Weiss, *assoc. editors*. *Proceedings of the 2011 International Conference on Data Mining*, CSREA Press, July 2011.

R. Stahlbock, S. Crone, *editors*, M. Abou-Nasr, H. Arabnia, N. Kourentzes, P. Lenca, W. Lippe, G.M. Weiss, *assoc. editors*. *Proceedings of the 2010 International Conference on Data Mining*, CSREA Press, July 2010.

R. Stahlbock, S. Crone, S. Lessmann, *editors*, M. Abou-Nasr, H. Arabnia, P. Lenca, Y. Li, W. Lippe, A. Scime, G.M. Weiss, *assoc. editors*. *Proc. of the 2009 International Conference on Data Mining*, CSREA Press, July 2009.

G.M. Weiss, M. Saar-Tsechansky, and B. Zadrozny (guest editors). *Data Mining and Knowledge Discovery (Special Issue on Utility-Based Data Mining)*, 17(2), October 2008.

R. Stahlbock, S. Crone, S. Lessmann, *editors*, H. Arabnia, P. Lenca, W. Lippe, G.M. Weiss, *assoc. editors*. *Proc. of the 2008 International Conference on Data Mining (DMIN '08)*, Volumes I & II, CSREA Press, July 2008.

B. Zadrozny, G.M. Weiss and M. Saar-Tsechansky (editors). *Proceedings of the ACM SIGKDD Second International Workshop on Utility-Based Data Mining*, ACM Press, August, 2006.

G.M. Weiss, M. Saar-Tsechansky and B. Zadrozny (editors). *Proceedings of the ACM SIGKDD First International Workshop on Utility-Based Data Mining*, ACM Press, August 2005.

Workshop Papers:

J.W. Lockhart and G.M. Weiss. Limitations with Activity Recognition Methodology & Data Sets. In *Proc. 2014 ACM Conference on Ubiquitous Computing Adjunct Publication (2nd International Workshop on Human Activity Sensing Corpus and its Application)*, Seattle, WA, 747-756, 2014.

G.M. Weiss, A. Nathan, JB Kropp, and J.W. Lockhart. WagTag™: A Dog Collar Accessory for Monitoring Canine Activity Levels. In *Proc. ACM UbiComp International Atelier on Smart Garments and Accessories*, Zurich, Switzerland, 2013.

G.M. Weiss and J.W. Lockhart. A Comparison of Alternative Client/Server Architectures for Ubiquitous Mobile Sensor-Based Applications. In *Proc. ACM UbiComp 1st International Workshop on Ubiquitous Mobile Instrumentation*, Pittsburgh, PA, 2012.

J.W. Lockhart, T. Pulickal, and G.M. Weiss. Applications of Mobile Activity Recognition. *In Proc. ACM UbiComp International Workshop on Situation, Activity, and Goal Awareness*, Pittsburgh, PA, 2012.

G.M. Weiss and J.W. Lockhart. The Impact of Personalization on Smartphone-Based Activity Recognition. In *Papers from the AAAI-12 Workshop on Activity Context Representation: Techniques and Languages*, AAAI Technical Report WS-12-05, Toronto, Canada, 98-104, 2012.

G.M. Weiss and J.W. Lockhart. Identifying User Traits by Mining Smart Phone Accelerometer Data. In *Proc. 5th International Workshop on Knowledge Discovery from Sensor Data*, San Diego, CA, 61-69, 2011.

J.W. Lockhart, G.M. Weiss, J.C. Xue, S.T. Gallagher, A.B. Grosner, and T.T. Pulickal. Design Considerations for the WISDM Smart Phone-Based Sensor Mining Architecture. In *Proc. 5th International Workshop on Knowledge Discovery from Sensor Data*, San Diego, CA, 25-33, 2011.

J.R. Kwapisz, G.M. Weiss and S.A. Moore. Activity Recognition using Cell Phone Accelerometers. In *Proc. 4th Fourth International Workshop on Knowledge Discovery from Sensor Data*, Washington D.C., 10-18, 2010.

Y. Tian, G.M. Weiss, and Q. Ma. A Semi-Supervised Approach for Web Spam Detection using Combinatorial Feature-Fusion. In *Proc. Graph Labelling Workshop and Web Spam Challenge, 16-23,* 2007.

Y. Tian, G.M. Weiss, D.F. Hsu, and Q. Ma. A Combinatorial Fusion Method for Feature Mining. In *Proc. 1st International Workshop on Mining Multiple Information Sources*, 6-13, 2007.

G.M. Weiss and Y. Tian. Maximizing Classifier Utility when Training Data is Costly. In *Proc. ACM SIGKDD Second International Workshop on Utility-Based Data Mining*, ACM Press, 3-11, 2006.

M. Ciraco, M. Rogalewski and G.M. Weiss. Improving Classifier Utility by Altering the Misclassification Cost Ratio, In *Proceedings ACM SIGKDD First International Workshop on Utility-Based Data Mining*, ACM Press, 46-52, 2005.

K. McCarthy, B. Zabar and G.M. Weiss. Does Cost-Sensitive Learning Beat Sampling for Classifying Rare Classes? In *Proc. ACM SIGKDD First International Workshop on Utility-Based Data Mining*, ACM Press, 69-75, 2005.

G.M. Weiss and H. Hirsh. Learning to Predict Extremely Rare Events, *Papers from the AAAI Workshop on Learning from Imbalanced Data Sets*, Technical Report WS-00-05, AAAI Press, Menlo Park, CA, 64-68, 2000.

G. M. Weiss. Mining Predictive Patterns in Sequences of Events. *The AAAI/GECCO Workshop on Data Mining with Evolutionary Algorithms: Research Directions*, 1999.

G.M. Weiss and H. Hirsh. Event Prediction: Learning from Ambiguous Examples. *The Neural Information Processing Systems Workshop on Learning from Ambiguous and Complex Examples*, 1998.

G.M. Weiss and H. Hirsh. Learning to Predict Rare Events in Categorical Time-Series Data. In *Papers from the AAAI Workshop on Predicting the Future: AI Approaches to Time-Series Problems*, Technical Report WS-98-07, AAAI Press, Menlo Park, CA, 83-90, 1998.

A. Singhal, G.M. Weiss and J. Ros. A Model Based Reasoning Approach to Network Monitoring. *In Proceedings of the ACM Workshop of Databases for Active and Real Time Systems*, Rockville, MD, 41-44, 1996.

Columns, Editorials and Reports:

G.M. Weiss. Your Smartphone Knows You Better Than You Know Yourself. *Inside Science*, January 4, 2013.

G.M. Weiss, M. Saar-Tsechansky, and B. Zadrozny. Guest editorial: special issue on utility-based data mining. *Data Mining and Knowledge Discovery*, 17(2), 129-135, October 2008.

B. Zadrozny, G. M. Weiss, and M. Saar-Tsechansky. UBDM 2006: Utility-Based Data Mining 2006 Workshop Report. *SIGKDD Explorations*, 8(2): 98-101, December 2006.

G.M. Weiss, M. Saar-Tsechansky and B. Zadrozny. Report on UBDM-05: Workshop on Utility-Based Data Mining. *SIGKDD Explorations*, 7(2), ACM Press, December 2005.

Invited Talks

Data Science in Education: Extracting Knowledge from Course Enrollment Data, 18th International Conference on Data Mining, Las Vegas, NV, July 25, 2022.

Terrorists, Hackers, and Criminals: Understanding the Darknet (tutorial), 13th International Conference on Data Mining, Las Vegas, NV, July 18, 2017 (given jointly with Andrew H. Johnston)

Mining Smartphone and Smartwatch Sensor Data: Activity Recognition, Biometrics, and Beyond, 2016 International Conference on Data Mining, Las Vegas, NV, July 25, 2016.

Smartphone Sensor Mining Applications: Ubiquitous Possibilities (tutorial), 10th International Conference on Data Mining, Las Vegas, NV, July 23, 2014.

The Role of Computer and Information Science in Technology Start Ups, Fordham University Schools of Business and The Center for Digital Transformation *Summit on Technology Start Ups in the Bronx: Opportunities and Challenges*, Fordham University, Bronx, NY, October 17, 2012.

Smart Phone Sensors, NY City Metro InfraGard Members Alliance, New York, NY, January 26, 2012.

Mining Smart Phone Sensor Data, Int. Conference on Cyber Security, New York, NY, January 11, 2012.

Smart Phone-Based Sensor Data Mining (Tutorial)*,* 7th International Conference on Data Mining, Las Vegas, NV, July 19, 2011.

Data Mining: How Retailers, Government & Others Know About Us*,* Fordham College of Liberal Studies College at 60 Spring Lecture Series, New York, NY, March 24, 2010.

Data Mining and How the Government and Businesses Know so much About Us, Interview on WFUV, August 22, 2009.

Active Sampling Using Class Label Information, IBM Research, Yorktown Heights, NY, May 2006.

Utility-Based Data Mining, Rutgers University, New Brunswick NJ, April 2006.

Are Dishwashers Intelligent? Reflections on where Information and Intelligence Collide, Fordham University, New York, NY, April 2005.

The Effect of Class Distribution on Classifier Learning, Farleigh Dickinson University, Madison, NJ, March 2004.

Mining Telecommunication Data, Teoma Corporation, Piscataway, NJ, August 2003.

An Overview of Expert Systems, College of Staten Island, CUNY, Staten Island, NY, April 2003.

Grants

CyberCorps Scholarship for Service: Preparing Future Cybersecurity Professionals with Data Science Expertise, Co-PI, National Science Foundation, 2022-2027	$4,062,628
Combating Systematic Racism & Gender Bias by Assessing Bias in Letters of Recommendation, Fordham University Faculty Challenge Grant, 2022-2023	$7,000
Analysis of Historical Student Course-Grade Data for Insights into Undergraduate STEM Education, Fordham University Faculty Research Grant, 2020.	$5,000
Quantification of ADHD Behavior using a Smart Cushion and Motion Sensors, Fordham University Interdisciplinary Research Grant, 2017 (joint with Dr. Amy Roy)	$10,000
Smartwatch-based Activity Recognition and Gait Analysis: Innovations in Mobile Health, Fordham University Faculty Research Grant, 2016	$6,500
Cell Phone-Based Activity Monitoring for Telehealth, National Science Foundation, 2011-2016	$420,000
Accelerometer-based Activity Level Determination for Canines, Healthy Pet Technologies, 2013	$2,000
Development and Use of Downloadable Smartphone Application, Wildlife Conservation Society,* 2013	$4,000
Smart Phone-Based Visitor Analytics, Fordham University Faculty Research Grant,* 2012	$12,480
WISDM Smart Phone-Based Visitor Tracking & WISDM Research Team Support, Fordham University Faculty Undergraduate Research Grant, 2012.	$6,660
Cell Phone-Based Activity Monitoring for Telehealth, Fordham University Faculty Research Grant, 2011	$12,000
Mobile Sensor Data Mining: Activity Recognition and More, Fordham University Undergraduate Research Grant, 2011	$2,000
Cell Phone-Based Fall Detection and Activity & Location Monitoring in the Elderly, Google Faculty Research Award, 2010	$25,000
Person and Activity Identification and Characterization using Mobile Sensor Accelerometer Data, Fordham University Faculty Research Grant,* 2010	$12,415
Enhancing Anti-Money Laundering Systems using Machine Learning Methods, Citigroup, 2007	$25,000
Utility-Based Data Mining for Rare Events, Fordham University Faculty Research Grant, 2007	$6,500
Utility-Based Data Mining, Fordham University Faculty Research Grant, 2006	$4,500
Integrated Cost-Considerate Data Mining, Fordham University Faculty Research Grant, 2005	$4,000

Professional Activities

Associate Editor:
- Knowledge and Information Systems: An International Journal, associate editor (2017 – 2022)

Editorial Board:
- International Journal of Data Mining, Modelling and Management (2008 – present)
- Neural Computing and Applications (2013 – present)

Journal Guest Editor:
- Data Mining and Knowledge Discovery, 17(2). Special Issue on Utility-Based Data Mining.

Conference/Workshop Organizer:
- Special Sessions, Tutorial, and Invited Talk Chair, ICDATA Int. Conference on Data Science (2022)
- Faculty Mentor, Google 2021 Tri-State ExploreCSR Workshop
- Special Sessions, Tutorial, and Invited Talk Chair, ICDATA Int. Conference on Data Science (2021)
- Special Sessions, Tutorial, and Invited Talk Chair, ICDATA Int. Conference on Data Science (2020)
- Special Sessions, Tutorial, and Invited Talk Chair, ICDATA Int. Conference on Data Science (2019)
- General Co-Chair & Local Co-Chair, DCOSS 14th Int. Conference on Distributed Computing in Sensor Systems (2018)
- Co-Chair, SIAM SDM International Workshop on Cost Sensitive Learning (2018)
- Program Co-Chair, ICDATA International Conference on Data Science (2018)
- Program Co-Chair, DMIN International Conference on Data Mining (2012-2017)
- Special Sessions & Tutorial Chair, 7th DMIN International Conference on Data Mining (2011)
- Special Sessions Chair, 6th DMIN International Conference on Data Mining (2010)
- Special Sessions Chair, 5th DMIN International Conference on Data Mining (2009)
- Special Sessions Chair, 4th DMIN International Conference on Data Mining (2008)
- Co-chair, 2nd International ACM SIGKDD Workshop on Utility-Based Data Mining (2006)
- Co-Chair, 1st International ACM SIGKDD Workshop on Utility-Based Data Mining (2005)

NSF Panelist, 2010, 2014

Program Committee Member:
- KDD 2022 Applied Data Science Track, Senior Program Committee, 2022
- 4th Int. Workshop on Learning with Imbalanced Domains: Theory and Applications (LIDTA), 2022
- KDD 2021 Applied Data Science Track, Senior Program Committee, 2021
- 3rd Int. Workshop on Learning with Imbalanced Domains: Theory and Applications (LIDTA), 2021
- 2020 International Joint Conference on Biometrics (IJCB-20)
- 10th IEEE International Conference on Biometrics: Systems, Theory, and Applications   (BTAS-19)
- 12th IAPR International Conference on Biometrics (ICB-19)
- 2017 International Joint Conference on Biometrics (IJCB-17)
- 8th IEEE International Conference on Biometrics: Theory, Applications & Systems (BTAS-16)
- 22nd ACM International Conference on Knowledge Discovery and Data Mining (KDD-16)
- 9th IAPR International Conference on Biometrics (ICB-16)
- 7th IEEE International Conference on Biometrics: Theory, Applications & Systems (BTAS-15)
- IEEE International Conference on Data Mining (ICDM-15)
- 4th PAKDD Workshop on Quality Issues, Measures of Interestingness and Evaluation of Data Mining Models, 2015 (QIMIE-15)
- IEEE International Conference on Data Mining (ICDM-14)
- 3rd PAKDD Workshop on Quality Issues, Measures of Interestingness and Evaluation of Data Mining Models (QIMIE-13)
- 15th International Conference on Discovery Science (DS-12)
- Workshop on Class Imbalances: Past, Present, and Future (CIPPF-12)
- 17th ACM International Conference on Knowledge Discovery and Data Mining (KDD-11)
- 2nd PAKDD Workshop on Quality Issues, Measures of Interestingness and Evaluation of Data Mining Models (QIMIE-11)
- 7th International Conference on Data Mining (DMIN-11)

- 10th IEEE International Conference on Data Mining (ICDM-10)
- 4th ACM SIGKDD International Workshop on Knowledge Discovery from Sensor Data (SENSORKDD-10)
- NASA 2010 Conference on Intelligent Data Understanding (CIDU-10)
- 6th International Conference on Data Mining (DMIN-10)
- 26th International Conference on Machine Learning (ICML-09)
- 15th ACM International Conference on Knowledge Discovery and Data Mining (KDD-09)
- 5th International Conference on Data Mining (DMIN-09)
- PAKDD Workshop on Data Mining when Classes are Imbalanced and Errors have Costs (ICEC-09)
- PAKDD Workshop on Quality Issues, Measures of Interestingness and Evaluation of Data Mining Models (QIMIE-09)
- 14th ACM International Conference on Knowledge Discovery and Data Mining (KDD-08)
- 25th International Conference on Machine Learning (ICML-08)
- 22nd National Conference on Artificial Intelligence (AAA-07)
- 18th European Conference on Machine Learning (ECML-07)
- 2nd International Workshop on Data Stream Mining and Management (DSMM-07)
- 1st International Workshop on Mining Multiple Information Sources (MMIS-07)
- 2006 Workshop on Data Mining for Business Applications
- 21st National Conference on Artificial Intelligence (AAAI-06)
- 16th European Conference on Machine Learning (ECML-05)
- Int. Conference on Machine Learning (ICML-03) Workshop on Learning from Imbalanced Data Sets II

Session Chair:
- International Conference on Cyber Security (ICCS-12)
- International Conference on Cyber Security (ICCS-10)
- 15th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD-09)
- 2009 International Conference on Cyber Security (ICCS-09)
- 2007 International Conference on Data Mining (DMIN-07)

Reviewer for the following journals:

ACM Transaction on Knowledge Discovery from Data

Algorithms for Molecular Biology

Annals of Operations Research

Data Mining and Knowledge Discovery

Decision Support Systems

Evolutionary Computation

IBM Systems Journal

IEEE Transactions on Biometrics, Behavior, and Identity Science

IEEE Transactions on Evolutionary Computation

IEEE Transactions on Knowledge and Data Engineering

IEEE Transactions on Neural Networks

IEEE Transactions on Systems, Man, and Cybernetics

Information Systems Research, Journal

Journal of Machine Learning Research

Journal of AI Research,

Machine Learning

Pervasive and Mobile Computing

Sensors

Administrative Service at Fordham University

Computer & Information Science Department

Interim Chair (July 1, 2011 – June 30, 2012; July 1, 2016 – June 30, 2017)

Program Director, MS in Computer Science (2014 – 2016, 2021 – present)

Associate Chair for Undergraduate Studies (2007–08, 2009–11)

Chair, CIS Doctoral Program Curriculum Subcommittee (2021 - present)

Member, MSDS Admissions Committee (2018 – 2021)

Member, Doctoral Program in Computer Science (2018 – 2021)

Faculty Advisor to Computing Sciences Society (2011 – 2017)

Member, Graduate Marketing Committee (2013 – 2017)

Member, Graduate Curriculum Committee (2013 – 2017)

Member, Undergraduate Curriculum Committee (2007 – 2016)

Member, Committee on Doctoral Program in Information Science (2007 – 2009)

Member, CISC 1100 Course Committee (2006 – 2016)

Chair, Department Website Committee (2004 – 2011)

University/College

Member, Fordham Undergraduate STEM Committee (2019 – 2022)

Member, Technology Committee (2015 – 2017)

Member, GSAS Strategic Planning Committee (2016 – 2017)

Member, Core Curriculum Subcommittee on Mathematical/Computational Reasoning and Natural Science, Fordham University College of Arts and Science (2009 - 2017)

Member, Academic Affairs Committee, Graduate School of Arts and Sciences (2007 – 2015)

Member, Undergraduate Science Education Committee, Arts & Sciences (2011 – 2014)

Member, Associate Dean for Science Education and Pre-Health Advising Search Committee (2014)

Member, Elections Committee, Fordham University (2006 – 2012)

Freshman Advisor, Fordham College of Rose Hill (2006 – 08, 2009-10)

Member, Committee on Bioinformatics, Fordham University (2007 – 09)

Member, University Assessment Roundtable, Fordham University (2008 – 10)

Chair, Strategic Planning Committee on Marketing Promotion, Graduate School of Arts & Sciences (2004)

Thesis Advisor

James Ho, Master's Thesis (MSDS), Fordham CIS, 2020.
Synthetic Recessions: An Exploration of Model Selection Techniques for Recession Nowcasting.

Tianyi Zhang, Master's Thesis (MSDS), Fordham CIS, 2020.
Mining Course Groupings from Student Performance.

Andrew Johnston, Master's Thesis (MSCY), Fordham CIS, 2019.
Identifying Extremism Using Deep Learning.

James Stahl, Undergraduate Honor's Thesis, Fordham CIS, 2018.
An Analysis of Image Hashing in the Domain of Dark Web Markets.

Kenichi Yoneda, Master's Thesis (MSCS), Fordham CIS, 2017.
Mobile Sensor-Based Biometrics from Common Daily Activities

Jeffrey Lockhart, Master's Thesis (MSCS), Fordham CIS, 2014.
The Benefits of Personalized Data Mining Approaches to Human Activity Recognition with Smartphone Sensor Data

Shaun Gallagher, Master's Thesis (MSCS), Fordham CIS, 2014.
Smartphone Sensor Data Mining for Gait Abnormality Detection

Andrew Grosner, Master's Thesis (MSCS), Fordham CIS, 2013.
Smartphone-Based GPS Analytics.

Jennifer Kwapisz, Undergraduate Honor's Thesis, Fordham CIS, 2009

Qiang Ma, Master's Thesis (MSCS), Fordham CIS, 2008

Ye Tian, Master's Thesis (MSCS), Fordham CIS, 2007

Thesis Reader

Man Qin, Master's Thesis in Data Science, Fordham CIS, 2021

William Cheung, Master's Thesis in Data Science, Fordham CIS, 2021

Samuel Stein, Master's Thesis in Data Science, Fordham CIS, 2020

Tong Wang, Master's Thesis in Data Science, Fordham CIS, 2020

William Charles, Master's Thesis in Data Science, Fordham CIS, 2020

Michael Tynes, Master's Thesis in Data Science, Fordham CIS, 2020

Matthew McNeill, Master's Thesis in Computer Science, Fordham CIS, 2019

Qian Zhao, Master's Thesis in Computer Science, Fordham CIS, 2019

Stephen Lebak, Master's Thesis in Computer Science, Fordham CIS, 2019

Feng Tang, Master's Thesis in Computer Science, Fordham CIS, 2016

Paramesh Nirmal, Master's Thesis in Computer Science, Fordham CIS, 2013

Hung-Da Shih, Master's Thesis in Computer Science, Fordham CIS, 2009

John Milner, Undergraduate Honor's Thesis, Fordham CIS, 2008

Paul Ryan, Undergraduate Honor's Thesis, Fordham CIS, 2008

Jizhou Ai, Master's Thesis in Computer Science, Fordham CIS, 2006

Instructional Experience

Department of Computer and Information Science, Fordham University   2004 – present

Graduate Classes Taught:
- Algorithms and Data Analysis (Fall 05, 06, 08, 09, 15)
- Data Mining (Spring 14, 16, 18; Fall 16, 19, 20, 21; Summer 21)
- Data Science for Cybersecurity (Spring 21, 23)
- Master's Capstone Project in Data Science (Summer 20, 21, 22; Spring 21, 22)
- Projects and Internships (Spring 17, 18)
- Computer Language Theory (Spring 07, 22)
- Data Communications and Networks (Fall 06)

Undergraduate Classes Taught:
- Structures of Computer Science (Spring/Fall 05, 06, 08; Fall 09, Spring/Fall 10, Spring 11)
- Discrete Structures (Fall 14)

- Data Mining (Spring 05, 13, 14, 19, 20; Fall 07, 08, 10, 19, 20, 21)
- Computers and Robots in Film (Fall 12, 14; Spring 14, 15)
- Theory of Computation (Spring 08, 12, 13, 15, 16, 18, 19, 20, 21, 22)
- Computer Algorithms (Fall 15)
- Wireless Sensor Data Mining (Fall 11)
- Projects and Internships (Fall 11, 12)
- Seminars and Directed Study (Spring 14, 15)
- Artificial Intelligence (Spring 10)
- Computer Data Analysis (Fall 07)
- Applied Database Systems (Spring 05)
- Systems Analysis (Fall 04)

Honors & Awards

1998: American Association for Artificial Intelligence (AAAI) Innovative Application of Artificial Intelligence Award (for the ANSWER expert system).

2007: International Conference on Data Mining (DMIN-07) Best Research Paper Award

2015: 5 Year Highest Impact Award for "Cell Phone-based Biometric Identification" from 2010 *IEEE Fourth International Conference on Biometrics: Theory, Applications and Systems*. Awarded at BTAS 2015. Award included $1000 prize.