

Alexander Tuzhilin

Research Interests	Personalization, Recommender Systems, Data Mining and Machine Learning
Education	<p><i>New York University</i>, Courant Institute of Mathematical Sciences Ph.D. in Computer Science, October 1989</p> <p><i>Stanford University</i>, Department of Management Science and Engineering (formerly, EES Department), M.S. in Engineering Economics, October 1981</p> <p><i>New York University</i>, B.A. in Mathematics, June 1980</p>
Regular Academic Positions	<p><i>New York University</i>, Stern School of Business</p> <p>Chair of the IOMS Department (2013 – present)</p> <p>Toyota Motor Corporation Term Professor (2014 – present)</p> <p>NEC Faculty Fellow (2007 – 2014)</p> <p>Professor of Information Systems (2006 – present)</p> <p>Affiliated Faculty of Computer Science, Courant Institute of Mathematical Sciences, NYU (212 – present, courtesy appointment)</p> <p>Associate Professor of Information Systems (1996 – 2006)</p> <p>Assistant Professor of Information Systems (1989 – 1996)</p>
Volunteering Pro Bono Positions	<p><i>University of the People</i>, Dean of Computer Science (2009 – present)</p>
Visiting Positions	<p><i>The Wharton School</i>, Department of Operations and Information Management, University of Pennsylvania, Visiting Associate Professor, September 2001 – August 2002</p> <p><i>Columbia University</i>, Computer Science Department Visiting Scientist, September 1997 – August 1998</p> <p><i>Ecole Nationale Supérieure des Telecommunications</i>, Paris, France Visiting Scientist, March 1994 – August 1994</p>
Industrial Positions	<p><i>Bell Laboratories</i>, Lucent Technologies. Consultant, April 1995 – December 1996</p> <p><i>Information Builders, Inc.</i>, New York, N.Y. Systems Developer, September 1985 – August 1987</p>

Major Services Performed at the Stern School	<p>NYU Faculty Senators Council member (Active Alternate, performing full duties of a Faculty Senator): 2012 – 2013; Alternate Senator: 2010 – 2012</p> <p>Chair of the Stern – NYU Poly Collaboration Task Force (Spring 2011–Spring 2012)</p> <p>Faculty Council Member of the Stern School (2001 – 2003, 2006 - 2009)</p> <p>NYU Intellectual Property Review Committee (2012 – 2014)</p> <p>Stern Ph.D. Program Oversight Committee Member (2009 - 2011)</p> <p>Ph.D. Program Coordinator for the IS Department (2000 – 2001, 2003 - 2007)</p> <p>Director of the Master of Science in Information Systems Program (joint program between Computer Science and the Stern School) (1996 – 2001)</p>
Grant Support	<p>NSF Grant “EAGER: Collaborative Research: Sequential Recommender Systems in Mobile and Pervasive Environments,” Principal Investigator, 2012 – 2014 (collaborative grant with Rutgers University).</p> <p>NSF Grant “Knowledge Discovery in Temporal Databases,” Principal Investigator, 1994 – 1997.</p> <p>Center for Advanced Technologies, NYU, 1:1Pro Project, 1998.</p> <p>Center for Research in Information Systems, Stern School of Business, NYU, The e-Butler Project, 1998.</p> <p>Center for Information Intensive Organizations, NYU, Personalization Technologies for 1:1 Marketing Applications, 1999.</p> <p>Morgan Stanley Dean Witter “The ARTE Project”, 2000 – 2001.</p> <p>Pfizer, Inc., Pharmaceutical Applications of Data Mining, 2002.</p> <p>Stern School of Business, NYU, Multidimensional Recommender Systems, 2002.</p> <p>Stern School of Business, NYU, Development of a Recommendation Query Language for Multidimensional Recommender Systems, 2003.</p> <p>Stern School of Business, NYU, Model Management for Statistical and Data Mining Models, 2004.</p>
Patents	<p>"System, process and software arrangement for providing multidimensional recommendations/suggestions", US Patent #8,930,243</p> <p>"System, process and software arrangement for providing multidimensional recommendations/suggestions", US Patent #8,924,264</p> <p>"Method and Apparatus for Monitor and Notification in a Network." US</p>

Patent #8,719,403

"System, process and software arrangement for providing multidimensional recommendations/suggestions", US Patent #8,572,020

"System, process and software arrangement for providing multidimensional recommendations/suggestions," US Patent #8,185,487

"Architectures, systems, apparatus, methods, and computer-readable medium for providing recommendations to users and applications using multidimensional data," US Patent #8,103,611.

"Method and Apparatus for Monitor and Notification in a Network." US Patent #7,865,546.

"System and Method for Dynamic Profiling of Users in One-to-One Applications and for Validating User Rules." US Patent #7,603,331.

"System and Method for Dynamic Profiling of Users in One-to-One Applications and for Validating User Rules." US Patent #6,871,186.

"Method and System for the Creation, Application and Processing of Logical Rules in Connection with Biological, Medical or Biochemical Data," US Patent #6,741,976.

"Method for Determining Actionable Patterns in a Database." US Patent #6,292,797.

"System and Method for Dynamic Profiling of Users in One-to-One Applications." US Patent #6,236,978.

Courses Taught at
NYU

- Emerging Technologies and Business Innovation (MBA)
- Customer Relationship Management Systems (MBA)
- Database Management Systems (undergraduate and MBA)
- Fundamentals of Computer Systems (undergraduate)
- Technical Foundations of Information Systems (Ph.D.)
- Computer-Based Systems for Management Support (undergraduate core)

Honors and
Awards

- Outstanding Service Award from the Technical Committee on Computational Intelligence (TCCI) of the IEEE Computer Society, 2003
- Dean's Dissertation Fellowship from NYU, September 1988
- Fellowship from the Stanford School of Engineering, September 1980
- Mathematics Award for Excellence from NYU, June 1980

Professional
Activities

Editorial Activities:

Editor-in-Chief of the *ACM Transactions of Management Information Systems* (2014 – present)

Area Editor of the *INFORMS Journal on Computing* for the Knowledge and Data Management Area (2007 – 2013)

Associate Editor of the *INFORMS Journal on Computing* (2000 – 2007)

Member of the Editorial Board of the *Data Mining and Knowledge Discovery* journal (1997 – present)

Member of the Editorial Board of the *ACM Transactions on Management Information Systems* (2009 – present)

Member of the Editorial Board of the *IEEE Transactions on Knowledge and Data Engineering* (2002 – 2006)

Member of the Editorial Board of *the Electronic Commerce Research Journal* (2000 - 2008)

Member of the Editorial Board of the *Journal of the Association for Information Systems* (1999 - 2002)

Guest Co-Editor of the Special Issue of the *ACM Transactions on Intelligent Systems and Technology (TOIT)* on Intelligent Mobile Knowledge Discovery and Management Systems, submission deadline: December 2011.

Guest Co-Editor of the Special Issue of the *IEEE Intelligent Systems* on Social and Economic Computing, vol. 26, no. 6, November/December 2011

Guest Co-Editor of the Special Issue of the *International Journal on User Modeling and User-Adapted Interactions* on Data Mining for Personalization 19(2), February 2009.

Guest Co-Editor of the Special Issue of the *Inform's Journal on Computing* on Mining Web-based Data for e-Business Applications, vol. 15, no. 2, 2003.

Guest Editor of the Special Issue of the *Decision Support Systems* journal on knowledge discovery and its applications to business. vol. 21, 1997.

Member of the Editorial Advisory Board of and wrote a foreword to the *Encyclopedia of Data Warehousing and Mining*, John Wang (ed.), IDEA, 2005.

Organizing Committee Member

IEEE International Conference on Data Mining (ICDM), *General Co-chair*, Atlantic City, NJ, November 2015.

Ninth ACM Conference on Recommender Systems, *Tutorials Co-Chair*,

Vienna, Austria, September 2015.

Chair of the Steering Committee of the ACM Conference on Recommender Systems, 2011 – 2013.

Member of the SIGCHI Conference Management Committee (CMC), 2011 - 2013.

Sixth ACM Conference on Recommender Systems, *Tutorials Co-Chair*, Dublin, Ireland, September 2012.

28th IEEE International Conference on Data Engineering (ICDE), *Panels Co-Chair*, Washington, DC, April 2012

Fourth Workshop on Context-Aware Recommender Systems, *Workshop Co-Chair*, Dublin, Ireland, September 2012.

Fifth ACM Conference on Recommender Systems, *Doctoral Symposium Co-Chair*, Chicago, IL, October 2011.

Third Workshop on Context-Aware Recommender Systems, *Workshop Co-Chair*, Chicago, IL, October 2011

Second Workshop on Context-Aware Recommender Systems, *Workshop Co-Chair*, Barcelona, Spain, September 2010

Third ACM Conference on Recommender Systems, *Conference Co-Chair*, New York, October 2009

ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, *Panels Chair*, Las Vegas, August 2008.

Second KDD Workshop on Large-Scale Recommender Systems and the Netflix Prize Competition, *Chair of the Organizing Committee*, Las Vegas, August 2008.

Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS), *Data Mining Cluster Co-Chair*, Washington, DC, November 2008.

17th ACM Conference on Information and Knowledge Management, *Knowledge Management Area Track Chair*, Napa Valley, October 2008.

Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS), *Data Mining Cluster Co-Chair*, Seattle, November 2007.

Third Winter Information Systems Conference, *Member of the Core Committee*, Salt Lake City, Utah, February 2007.

AAAI'07 Workshop on Recommender Systems in E-Commerce, *Co-Organizer*, Vancouver, CA, July 2007.

IEEE International Conference on Data Mining, *Program Committee Vice-Chair*, Hong Kong, 2006.

IEEE International Conference on Data Mining, *Member of the IEEE ICDM Research Contributions and Outstanding Service Awards Committee*, 2006.

IEEE International Conference on Service Operations and Logistics, and Informatics (SOLI), *Advisory Board Member*, Shanghai, China, 2006.

International Workshop on Customer Relationship Management: Data Mining Meets Marketing, *Workshop Co-Chair*, New York, 2005.

IEEE International Conference on Data Mining, *Program Committee Co-Chair*, Melbourne, Florida, 2003.

IEEE International Conference on Data Mining, *Best Paper Awards Committee Chair*, Melbourne, Florida, 2003.

ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, *Panels Chair*, Boston, 2000.

Program Committee Member (in chronological order):

Ninth ACM Conference on Recommender Systems, *Senior Program Committee Member*, Vienna, Austria, September 2015.

Eighth ACM Conference on Recommender Systems, *Senior Program Committee Member*, San Francisco, October 2014.

Workshop on Information Technologies and Systems (WITS), Auckland, New Zealand, December 2014.

Workshop on Information Technologies and Systems (WITS), Milan, Italy, December 2013.

ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, *Senior Program Committee Member*, Chicago, IL, August 2013.

Sixth ACM Conference on Recommender Systems, *Senior Program Committee Member*, Dublin, Ireland, September 2012.

20th Conference on User Modeling, Adaptation and Personalization (UMAP2012) Montreal, Canada, July 2012

22nd Workshop on Information Technologies and Systems (WITS), Orlando, FL, 2012.

Tenth AAI Workshop on Intelligent Techniques for Web Personalization, Toronto, Canada, July 2012.

Fifth ACM Conference on Recommender Systems, *Senior Program Committee Member*, Chicago, IL, October 2011.

ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, *Senior Program Committee Member*, San Diego, August 2011.

21st Workshop on Information Technologies and Systems (WITS),

Shanghai, China, December 2011.

Fifth International Workshop on Personalized Access, Profile Management, and Context Awareness in Databases, Seattle, WA, September 2011.

Ninth IJCAI Workshop on Intelligent Techniques for Web Personalization, Barcelona, Spain, July 2011.

IEEE International Conference on Data Mining, Sydney, Australia, December, 2010.

Workshop on Information Technologies and Systems (WITS), St. Louis, Missouri, December 2010.

Fourth ACM Conference on Recommender Systems, *Senior Program Committee Member*, Barcelona, Spain, September 2010.

Eleventh ACM Conference on Electronic Commerce (EC-10), Cambridge MA, *Senior Program Committee Member*, June 2010.

8th Workshop on Intelligent Techniques in Web Personalization, Big Island, Hawaii, June 2010.

Workshop on Information Technologies and Systems (WITS), Phoenix, AZ, December 2009.

Second International ACM Conference on Recommender Systems, Lausanne, Switzerland, October 2008.

Workshop on Information Technologies and Systems (WITS), Paris, France, December 2008.

International Conference on Advanced Intelligence, Beijing, China, October 2008.

International Conference on Information Systems (ICIS), Design Sciences Track, Montreal, Canada, December, 2007.

Workshop on Information Technologies and Systems (WITS), Montreal, Canada, December 2007.

Sixth Workshop on e-Business (WeB), Montreal, Canada, December 2007.

ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, *Senior Program Committee Member*, San Jose, August 2007.

ACM Conference on Electronic Commerce, San Diego, CA, June 2007.

The First International Conference on Global Defense and Business Continuity, Silicon Valley, July 2007.

Fifth AAAI Workshop on Intelligent Techniques in Web Personalization, July 2007.

ACM KDD Workshop on Business Applications of Data Mining, Philadelphia, PA, 2006.

International Conference on Machine Learning (ICML), Pittsburgh, June 2006.

International Conference on Information Systems (ICIS), Design Sciences Track, Milwaukee, Wisconsin, December, 2006.

Workshop on Information Technologies and Systems (WITS), Milwaukee, WI, December 2006.

Fifth Workshop on e-Business (WEB 2006), Milwaukee, WI, Dec. 2006

ICIS SIG-DSS Workshop on Strategic and Behavioral Aspects of DSS, Milwaukee, WI, December 2006.

Fourth AAAI Workshop on Intelligent Techniques in Web Personalization, July, Boston, MA, 2006.

KDD workshop on Data Mining For Business Applications, Philadelphia, PA, August 2006.

Fifth IEEE International Conference on Data Mining, New Orleans, November, 2005.

Workshop on Information Technologies and Systems (WITS), Las Vegas, December 2005.

Third IJCAI Workshop on Intelligent Techniques in Web Personalization, August 2005, Edinburgh, Scotland.

Tenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, Seattle, WA, August 2004.

Workshop on Information Technologies and Systems (WITS), Washington, DC, December 2004.

SIGMOD Workshop on Research Issues in Data Mining and Knowledge Discovery, Paris, France, June 2004.

AAAI Workshop on Semantic Web Personalization, San Jose, July 2004.

Workshop on Information Technologies and Systems (WITS), Seattle, WA, December 2003.

Ninth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, Washington, DC, August 2003.

IJCAI-03 Workshop on Intelligent Techniques for Web Personalization, Acapulco, Mexico, August 2003.

NSF/NIJ Symposium on Intelligence and Security Informatics, Tucson, AZ, June 2003.

IEEE International Conference on Data Mining, Japan, December 2002

SIAM Data Mining Conference, Arlington, VA, April 2002.

Eighth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, Alberta, CA, July 2002.

Workshop on Information Technologies and Systems (WITS), Barcelona, Spain, December 2002.

Ninth International Symposium on Temporal Representation and Reasoning (TIME), July, 2002.

27th International Conference on Very Large Databases, Rome, Italy, September 11 – 14, 2001

Seventh International Conference on Knowledge Discovery and Data Mining, San Francisco, August 20 – 23, 2001.

International Workshop on Bioinformatics in Data Mining (BIOKDD 2001), San Francisco, August 2001.

Eight International Symposium on Temporal Representation and Reasoning (TIME), Udine, Italy, June 14-16, 2001

4th International Conference on Telecommunications and Electronic Commerce (ICTEC), Dallas, TX, November 8 – 11, 2001.

IJCAI-01 Workshop on Intelligent Techniques for Web Personalization, Seattle, WA, August 2001

First International Workshop on Databases, Documents, and Information Fusion, Magdeburg, Germany, 2001.

3rd International Conference on Telecommunications and Electronic Commerce (ICTEC), Dallas, TX, November 16-19, 2000.

International Workshop on Temporal, Spatial and Spatio-Temporal Data Mining, Lyon, France, September 13 – 16, 2000.

Sixth International Conference on Knowledge Discovery and Data Mining, Boston, August 2000 (Panels Chair, Program Committee Member)

WebKDD'2000 Workshop, Boston, MA, August 2000.

WebKDD'99 Workshop, San Diego, CA, August 1999.

SIGMOD'99 Data Mining Workshop, Philadelphia, May, 1999.

1st International Workshop on Evolution and Change in Data Management, Versailles, France, November, 1999.

Pacific Rim Workshop on Data Mining and Machine Learning, 1998.

16th International Conference on Conceptual Modeling (ER'98), Singapore 1998.

Fourth International Conference on Knowledge Discovery and Data Mining, New York, N.Y., August 1998.

15th International Conference on Conceptual Modeling (ER'97), Los Angeles, CA, November 1997.

SIGMOD'97 Data Mining Workshop, Tucson, AZ, June 1997.

NSF funding panel, 1997.

Third International Conference on Knowledge Discovery and Data Mining, Newport Beach, CA, August 1997.

Second International Conference on Knowledge Discovery and Data Mining, Portland, Oregon, August 1996.

First International Conference on Knowledge Discovery and Data Mining, Montreal, Canada, August 1995.

International Workshop on Temporal Databases, Zurich, Switzerland, September 1995.

Fifth Workshop on Information Technologies and Systems, Amsterdam, Netherlands, December 1995.

International Workshop on Temporal Reasoning in Deductive and Object-Oriented Databases, Singapore, December 1995.

AAAI Workshop on Knowledge Discovery in Databases, Washington, 1993

Invited Keynotes:

"Opportunities and Challenges Facing Recommender Systems: Where Can We Go from Here?" To be presented at the *First European Network Intelligence Conference*, September 29, 2014.

"Opportunities and Challenges Facing Recommender Systems: Where Can We Go from Here?" Presented at the *IEEE International Conference on Data Mining (ICDM)*, Dallas, December 8, 2013.

"Context-Aware Recommender Systems: The Next Frontier." Presented at the *CAMRa Workshop at the ACM Conference on Recommender Systems*, Chicago, October 27, 2011.

"The Next Generation of Recommender Systems," Presented at the *Summer School of the AiG (Italian Association of Business Engineering)*; Brixen-Bressanone, Italy, September 14, 2011.

"Towards the Next Generation of Recommender Systems." Presented at the *International Conference on Electronic-Business Intelligence*, Kunming, China, December 19 – 21, 2010.

"The Next Generation of Recommender Systems, or What's Next After the Netflix Prize Competition." Presented at the *5th IEEE International Conference on Computer Science & Education*, Hefei, China, August 26, 2010.

"From Marketing Science towards Marketing Engineering... and Back

Again." Presented at the *Marketing Meets Datamining Conference*, University of Texas, Austin; August 22 - 23, 2009.

"The Next Generation of Recommender Systems: Where the Netflix Prize Competition Brought Us Today and Where We Can Go from Here." Presented at the *IS Symposium: IT Innovation in the Next Decade*, City University of Hong Kong, Hong Kong; July 6 - 7, 2009.

Invited Presentations:

Academic: Numerous presentations including those at MIT, Wharton, Columbia, CMU (Tepper), CMU (Heinz School), NYU, UCLA, Purdue, University of Minnesota, University of Maryland (College Park), University of Toronto, University of Florida (Gainesville), University of Texas at Dallas, University of Washington, Rutgers University, University College of London, University of California at Santa Cruz, University of California at Davis, University of Utah, University of Iowa, Pennsylvania State, NJIT, Stevens Institute of Technology, Sorbonne, Moscow State University, Stockholm University and Swedish Royal Institute of Technology, Ecole Nationale Supérieure des Telecommunications, Vienna University of Economics and Business, Politecnico di Torino, Politecnico di Bari, Free University of Bolzano, KAIST, Tsinghua University, Southern Methodist University, and others.

Invited tutorial on Personalization and Recommender Systems at the INFORMS Annual Meeting, Washington, DC, November 2008.

Invited tutorial on Context-Aware Recommender Systems at the Second ACM International Conference on Recommender Systems (RecSys08), Lausanne, Switzerland, October 2008.

Participation/Presentation at the Dagstuhl Seminars:

-- Data Mining: The Next Generation, July 2004.

-- Temporal Databases: Research and Practice, June 1997.

Participation in Google's Faculty Summit, New York, July 14 – 15, 2011.

Participation in the "Architecture of On Demand Business Summit" at IBM T.J. Watson Research Center, May 2004.

Industrial (related to my research): Yahoo! Research, Bell Laboratories (Lucent), IBM Watson Research Center, Oracle, Yandex, Computer Associates, Doubleclick, Morgan Stanley, Barnes&Noble.com, Telecordia, Merck, CuraGen, Genaisance Pharmaceuticals, CCS (Japan)

Ad Hoc Reviewing:

- ACM Transactions on Database Systems
- ACM Transactions on Internet Technologies
- IEEE Transactions on Knowledge and Data Engineering
- IEEE Transactions on Software Engineering

- IEEE Transactions on Systems, Man and Cybernetics
- IEEE Computer
- Management Science
- Operations Research
- Information Systems Research
- Journal of Data Mining and Knowledge Discovery
- Science
- Journal of Intelligent Information Systems
- Information Systems
- Artificial Intelligence Journal
- INFORMS Journal on Computing
- Decision Support Systems Journal
- Annals of Operations Research
- Machine Learning Journal
- International Journal of Electronic Commerce
- Information Processing Letters
- Journal of Software Practice and Experience
- NSF Grant Proposals
- SIGMOD, VLDB, ECDT, ICDE, KDD, ICDM, ER Conferences.

Ph.D. Student
Advising

Dissertation Committee Chair (chronological order):

- *Panagiotis Adamopoulos*, 5th year Ph.D. student. Topic: unexpected recommendations.
- *Akhmed Umyarov*, Thesis title: "Improving Probabilistic Models for Recommender Systems with Aggregate Data", 2010. A. Umyarov is currently an Assistant Professor at the Carlson School of Management, *University of Minnesota*.
- *Rong Zheng*, Thesis title: "Two Essays on data Mining Approach to Modeling Customer Behaviors", 2009. R. Zheng is currently an Assistant Professor at the *Hong Kong University of Science and Technology*.
- *Tianyi Jiang*, Thesis title: "Generalized Approach to Customer Segmentation and Building Predictive Models of Customer Behavior," 2008. T. Jiang is currently Chief Executive Officer of *AvePoint*.
- *Gedas Adomavicius* (CS Department, NYU). Thesis title: "Expert-Driven Validation of Set-Based Data Mining Results," 2002. G. Adomavicius is currently an Anderson (Full) Professor in Business Education Excellence of Information Systems with tenure at the Carlson School of Management, *University of Minnesota*.
- *Balaji Padmanabhan*, Thesis title: "Discovery of Unexpected Patterns in Data Mining Applications," 1999. B. Padmanabhan is currently an Anderson Professor of Global Management with tenure at the College of Business Administration, *University of South Florida*
- *P. Balasubramanian*, Thesis title: "Query-Driven Simulation for Decision Support," 1995. P. Balasubramanian is currently a Full Professor of Information Systems with tenure at *Babson College*.

Dissertation Committee Member:

- Raghav Madhavan, "Design and Evaluation of Genetic Regression Methods for Knowledge Discovery," 1999.
- Don Berndt, "Designing a Knowledge Discovery Tool: The AX System," 1997.
- Nicky Ranganathan, "Constraint-Based Environments for Model Formulation and Analysis," 1994
- Hardeep Johar, "Coordination and Control in Distributed Work: Towards Intelligent Decision Support", 1994.
- Shlomo Hershkop (Computer Science Department, Columbia University), "Behavior-Based Email Analysis with Application to Spam Detection," 2005 (external thesis committee member).
- Sigal Sahar (Computer Science Department, Tel Aviv University). "What is Interesting: Studies on Interestingness in Knowledge Discovery," 2003 (external examiner)
- Wenke Lee (Computer Science Department, Columbia University), "A Data Mining Framework for Constructing Features and Models for Intrusion Detection Systems," 1999, (external thesis committee member).
- Andreas Prodromidis (Computer Science Department, Columbia University) "Management of Intelligent Learning Agents in Distributed Data Mining Systems," 1999, (external thesis committee member).
- Mauricio Hernandez (Computer Science Department, Columbia University), "A Generalization of Band Joins and the Merge/Purge Problem," March 1996 (external thesis committee member).
- Philip Chan (Computer Science Department, Columbia University), "An Extensible Meta-Learning Approach for Scalable and Accurate Inductive Learning," October 1996 (external thesis committee member).

List of Publications

Journal Publications (in chronological order)

1. "On Unexpectedness in Recommender Systems: Or How to Better Expect the Unexpected," **ACM Transactions on Intelligent Systems and Technology** (TIST); to appear (with P. Adamopoulos).
2. "Cost-Aware Collaborative Filtering for Travel Tour Recommendations," **ACM Transactions on Information Systems** (TOIS); 32(1), 2014 (with Y. Ge, H. Xiong and Q. Liu).
3. "Comparing Context-Aware Recommender Systems in Terms of Accuracy and Diversity: Which Contextual Modeling, Pre-filtering and Post-Filtering Methods Perform the Best," **Journal of User Modeling and User-Adapted Interaction** (UMUAI); 24(1-2), pp 35 - 65 (with M. Gorgoglione and U. Panniello), 2014.
4. "Customer Relationship Management and Web Mining: The Next Frontier," **Data Mining and Knowledge Discovery Journal (DMKD)**, 24(3), 2012.
5. "Knowledge Management Revisited: Old Dogs, New Tricks," **ACM Transactions on Management Information Systems** (TMIS), 2(3), October, 2011.
6. "Using External Aggregate Ratings for Improving Individual Recommendations." **ACM Transactions on the Web** (TWEB), 5(1), February 2011 (with A. Umyarov).
7. "Context-Aware Recommender Systems," **AI Magazine** (with G. Adomavicius, B. Mobasher and F. Ricci); 32(3), 2011.
8. "ReQuest: A Query Language for Customizing Recommendations". **INFORMS Information Systems Research Journal (ISR)**, 22(1), March 2011 (with G. Adomavicius and R. Zheng).
9. "Improving Personalization Solutions through Optimal Segmentation of Customer Bases". **IEEE Transactions on Knowledge and Data Engineering**, 21(3), March 2009, pp. 305 - 320 (with T. Jiang).
10. "Dynamic Micro Targeting: Fitness-Based Approach to Predicting Individual Preferences." **Knowledge and Information Systems Journal (KAIS)**, 19(3), June 2009 (with T. Jiang).
11. "Using Context to Improve Predictive Models of Customers in Personalization Applications." **IEEE Transactions on Knowledge and Data Engineering**, 20(11), November 2008, pp. 1535 - 1549 (with M. Gorgoglione and C. Palmisano).
12. "Managing and Analyzing Large Collections of Data Mining Models." **Communications of the ACM**, 51(2), February 2008 (with Bing Liu).
13. "Validation Sequence Optimization: A Theoretical Approach." **INFORMS Journal on Computing** 19(2), Spring 2007 (with G. Adomavicius).
14. "Segmenting Customers from Population to Individuals: Does 1-to-1 Keep your Customers Forever?" **IEEE Transactions on Knowledge and Data Engineering**, 18(1), October 2006 (with T. Jiang).

15. "On Characterization and Discovery of Minimal Unexpected Patterns in Rule Discovery." **IEEE Transactions on Knowledge and Data Engineering**, 18(2), February 2006 (with B. Padmanabhan).
16. "Personalization Technologies: A Process-Oriented Perspective." **Communications of the ACM**, 48(1), October 2005 (with G. Adomavicius).
17. "Towards the Next Generation of Recommender Systems: A Survey of the State-of-the-Art and Possible Extensions." **IEEE Transactions on Knowledge and Data Engineering**, 17(6), June 2005, (with G. Adomavicius).
18. "Incorporating Contextual Information in Recommender Systems Using a Multidimensional Approach". **ACM Transactions on Information Systems**, 23(1), January 2005 (with G. Adomavicius, R. Sankaranarayanan and S. Sen).
19. "On the Use of Optimization for Data Mining: Theoretical Interactions and eCRM Opportunities," **Management Science**, 49(10), October 2003 (with B. Padmanabhan).
20. "e-Butler: An Architecture of a Customer-Centric Personalization System," **International Journal of Computational Intelligence and Applications**, vol. 2, no 3, October 2002 (with G. Adomavicius).
21. "Knowledge Refinement Based on the Discovery of Unexpected Patterns in Data Mining". **Decision Support Systems**, vol. 33, no. 3, July 2002 (with B. Padmanabhan).
22. "Using Data Mining Methods to Build Customer Profiles." **IEEE Computer**; vol. 34, no. 2, February 2001 (with G. Adomavicius).
23. "Expert-Driven Validation of Rule-Based User Models in Personalization Applications." **Data Mining and Knowledge Discovery Journal**. vol. 5, no 1/2, Special Issue on E-commerce and Data Mining, January 2001 (with G. Adomavicius).
24. "Unexpectedness as a Measure of Interestingness in Knowledge Discovery." **Decision Support Systems**, (27)3 (1999) pp. 303-318 (with B. Padmanabhan).
25. "Making Sense of Marketing Data: Some MIS Perspectives on the Analysis of Large Databases," **Journal of Market-Focused Management** (with S. Sen), vol. 3, p. 91-111, 1998.
26. "On the Analysis of Web Site Usage Data: How Much Can We Learn About the Consumer from Web Logfiles?" **European Journal of Marketing**, vol 32, no. 7, 1998 (Special Issue on Marketing in Cyberspace) (with S. Sen, B. Padmanabhan, N. White, R. Stein).
27. "Providing Information Systems Support for Simulations Using the Cassandra+ System." **Annals of Operations Research**, vol. 72, 1997 (with P. Balasubramanian).
28. "What Makes Patterns Interesting in Knowledge Discovery Systems." **IEEE Transactions on Knowledge and Data Engineering**, vol. 8, no. 6, December 1996 (with Avi Silberschatz).
29. "On Data Representation and Use in a Temporal Relational DBMS". **Information Systems Research** vol. 7, no. 3, September 1996 (with J. Clifford and A. Croker).
30. "Modeling Data-Intensive Reactive Systems with Relational Transition Systems." **Acta Informatica**, vol.33, no.3, May 1996 (with Z. Kedem).

31. "Using Query Driven Simulations for Querying Outcomes of Business Processes." **Decision Support Systems**, vol. 16, 1996 (with P. Balasubramanian).
32. "On Periodicity in Temporal Databases." **Information Systems**, vol. 20, no. 8, December 1995 (with J. Clifford).
33. "Templar: A Knowledge-Based Language for Software Specifications Using Temporal Logic." **ACM Transactions on Information Systems**, vol. 13, no. 3, July 1995.
34. "Extending Temporal Logic to Support High-Level Simulations." **ACM Transactions on Modeling and Computer Simulation**, vol. 5, no. 2, 1995.
35. "On Completeness of Historical Relational Query Languages." **ACM Transactions on Database Systems**, vol. 19, no. 1, March 1994 (with James Clifford and Albert Croker)
36. "Querying Datalog Programs with Temporal Logic." **Acta Informatica**, vol. 30, Dec. 1993.
37. "Abstract-Driven Pattern Discovery in Databases." **IEEE Transactions of Knowledge and Data Engineering**, vol. 5, no. 6, December 1993 (with V. Dhar).
38. "SimTL: A Simulation Language Based on Temporal Logic." **Transactions of the Society for Computer Simulation**, vol. 9, no. 2, 1992.

Articles in Non-refereed Journals and Magazines

39. "The Lane's Gifts v. Google Report". **Search Engine Marketing Research Journal**, Summer 2008.
40. "10 Challenging Problems in Data Mining Research," **International Journal of Information Technology & Decision Making**, vol. 5, no. 4 (2006) pp. 597–604 (with P. Domingos, C. Elkan, J. Gehrke, J. Han, D. Heckerman, D. Keim, J. Liu, D. Madigan, G. Piatetsky-Shapiro, V. Raghavan, R. Rastogi, S. Stolfo and B. Wah)
41. "Automation's Next Wave." **Stern Business**, March 2005.

Books

42. **Proceedings of the Third ACM Conference on Recommender Systems (RecSys)**, October 2009 (edited with L. Bergman, R. Burke, A. Felfernig, and L. Schmidt-Thieme).
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46. "Context-Aware Recommender Systems." **Handbook on Recommender System**, Chapter 7, Springer, 2011 (with G. Adomavicius).
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48. "On Subjective Methods of Knowledge Evaluations in Data Mining." In **Handbook of Data Mining and Knowledge Discovery**. Oxford University Press. 2002.
49. "Minimum Description Length Principle." In **Handbook of Data Mining and Knowledge Discovery**. Oxford University Press. 2002.
50. "Finding Unexpected Patterns in Data." In **Data Retrieval and Data Mining**, T. Y. Lin and N. Cercone (eds), Kluwer Academic Publishers, 2002 (with B. Padmanabhan).
51. "Discovering Unexpected Patterns in Temporal Data Using Temporal Logic." In **Temporal Databases -- Research and Practice**. O. Etzion, S. Jajodia, S. Sripada (eds.). Springer, 1998 (with G. Berger).
52. "On Completeness of Languages for the Grouped and Ungrouped Historical Data Models." In **Temporal Databases**. A. Tansel, J. Clifford, S. Gadia, S. Jajodia, A. Segev, and R. Snodgrass (eds.), Benjamin/Cummings, 1993 (with J. Clifford and A. Croker).
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Major Refereed Conference Proceedings (in chronological order)
(acceptance rates between 7% and 35%; papers with acceptance rates below 20% highlighted)

54. "On Over-Specialization and Concentration Biases of Recommendations: Probabilistic Neighborhood Selection in Collaborative Filtering Systems," **Eighth ACM Conference on Recommender Systems**, October 2014 (with P. Adamopoulos) (*acceptance rate = 23%*)
55. "Estimating the Value of Multi-Dimensional Data Sets in Context-based Recommender Systems." **Eighth ACM Conference on Recommender Systems (RecSys)** (with P. Adamopoulos) [poster paper], October 2014.
56. "Recommending Learning Materials to Students by Identifying their Knowledge Gaps." Proceedings of the **Eighth ACM Conference on Recommender Systems (RecSys)** (with K. Bauman) [poster paper], October 2014.
57. "Improving Item Prediction Using Weighted Percentile Methods in Collaborative Filtering Systems," **Seventh ACM Conference on Recommender Systems**, October 2013 (with P. Adamopoulos) [short paper].
58. "Not by Search Alone: How Recommendations Complement Search Results," **Seventh ACM Conference on Recommender Systems**, October 2013 (with D. Dzyabura) [short paper].
59. "The Effect of Context-Aware Recommendations on Customer Purchasing Behavior and Trust," **Fifth ACM Conference on Recommender Systems**, October 2011 (with M. Gorgoglione and U. Panniello) (*acceptance rate = 22/110 = 20%*)
60. "Collaborative Filtering with Collective Training," **Fifth ACM Conference on Recommender Systems**, October 2011 [short paper] (with Y. Ge, H. Xiong and Q. Liu)

61. "Cost-aware Travel Tour Recommendations," **ACM SIGKDD Conference on Knowledge Discovery and Data Mining**, August 2011 (with Y. Ge, H. Xiong, Jian Chen and Qi Liu) [poster paper] (*acceptance rate = 17%*)
62. "An Energy-Efficient Mobile Recommender System," **ACM SIGKDD Conference on Knowledge Discovery and Data Mining**, July 2010 (with Y. Ge, H. Xiong, K. Xiao, M. Gruteser and M. Pazzani).
63. "Making Aggregate-Level Predictions in Recommender Systems Using Multi-Level Ratings," **19th Workshop on Information Technologies and Systems (WITS)**, December 2009 (with A. Umyarov).
64. "Using External Aggregate Ratings for Improving Individual recommendations", **Third ACM Conference on Recommender Systems**, October 2009 (with A. Umyarov) (*acceptance rate = 25/140 = 17%*)
65. "Experimental Comparison of Pre- and Post-filtering Approaches in Context-Aware Recommender Systems", **Third ACM Conference on Recommender Systems**, October 2009 (with M. Gorgoglione, U. Panniello, C. Palmisano and A. Pedone) [short paper]
66. "Improving Collaborative Filtering Recommendations Using External Data." **IEEE International Conference on Data Mining**, December 2008 (with A. Umyarov) (*acceptance rate = 70/724 = 9%*).
67. "Partitioning Customers Using Overlapping Segmentation Methods." **18th Workshop on Information Technologies and Systems (WITS)** (with R. Zheng), December 2008.
68. "The Long Tail of Recommender Systems and How to Leverage It." **ACM Conference on Recommender Systems**, October 2008 (with Y-J Park) (*acceptance rate = 20/124 = 16%*).
69. "Dynamic Micro Targeting: Fitness-Based Approach to Predicting Individual Preferences." **IEEE International Conference on Data Mining**. November 2007 (with T. Jiang) (*acceptance rate = 38/526 = 7%*).
70. "Leveraging Aggregate Ratings for Better Recommendations", **ACM Conference on Recommender Systems**, November, 2007 (with A. Umyarov) [short paper].
71. "User Profiling with Hierarchical Context: An e-Retailer Case Study." **Sixth International and Multidisciplinary Conference on Modeling and Using Context (CONTEXT'07)**, Denmark, August 2007 (with M. Gorgoglione and C. Palmisano).
72. "Personalization in Context: Does Context Matter when Building Personalized Customer Models?" **IEEE International Conference on Data Mining**. December 2006 (with M. Gorgoglione and C. Palmisano) (*acceptance rate = 73/776 = 9%*).
73. "Improving Personalization Solutions through Optimal Segmentation of Customer Bases" **IEEE International Conference on Data Mining**. December 2006 (with T. Jiang) (*acceptance rate = 73/776 = 9%*).
74. "Forming Segments from Individuals Using Grouping Methods." **16th Workshop on Information Technologies and Systems (WITS)**, (with T. Jiang) December 2006.
75. "Mining Actionable Patterns by Role Models". **IEEE International Conference on Data Engineering**, April 2006 (with K. Wang and Y. Jiang). (*acceptance rate 89/456 = 19.5%*)

76. "Mining Patterns that Respond to Actions." **IEEE International Conference on Data Mining**. November 2005 (with K. Wang, A. Fu and Y. Jiang) [short paper].
77. "Context-Aware Recommender Systems", **14th Workshop on Information Technologies and Systems (WITS)**, December 2004 (with G. Adomavicius, R. Sankaranarayanan and S. Sen).
78. "Divide and Prosper: Comparing Models of Customer Behavior from Populations to Individuals", **IEEE International Conference on Data Mining**, Nov. 2004 (with T. Jiang) [short paper].
79. "On the Discovery of Significant Statistical Quantitative Rules". **ACM SIGKDD Conference on Knowledge Discovery and Data Mining**, August 2004 (with B. Padmanabhan and H. Zhang) (*acceptance rate 40/337 = 12%*)
80. "Querying Multiple Sets of Discovered Rules," **ACM SIGKDD Conference on Knowledge Discovery and Data Mining**, July 2002 (with Bing Liu). (*acceptance rate 44/307 = 14%*)
81. "Handling Very Large Numbers of Association Rules in the Analysis of Microarray Data," **ACM SIGKDD Conference on Knowledge Discovery and Data Mining**, July 2002 (with Gedas Adomavicius) (*acceptance rate 44/307 = 14%*).
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123. "A method of collecting consumer data renews questions about patents on business practices," by Sabra Chartrand, *New York Times*, July 30, 2001.
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125. "Stop the Press! A Patent on One to One?" by Don Peppers, *Inside 1to1*; December 17, 2001
126. "Click, or Cheat?" *Stern Business*, Summer 2007. Article written by the Editorial Staff of Stern Business, summarizing my report on Google click fraud activities that I have submitted to the court in Texarkana, Arkansas on July 21, 2006 pertaining to the Lane's Gifts vs. Google settlement.
127. Various quotations and commentaries on technology-related topics that appeared in such outlets as The Wall Street Journal, Business Week Online, Financial Times, Los Angeles Times, International Herald Tribune, Information Week, and various other publications.