

Curriculum Vitae

Name: Huan Liu
Title: Professor
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EDUCATION

Ph.D. (Computer Science) University of Southern California (1989)
M.Sc. (Computer Science) University of Southern California (1985)
B.Eng. (Computer Science and Engineering) Shanghai JiaoTong University, China (1983)

PROFESSIONAL EXPERIENCE

Professor/Associate Professor, *1/00 to Present*

Computer Science & Engineering, SCIDSE/SCI, Arizona State University, Tempe, AZ 85287.

ASEE AFFP Fellow, *6/07 to 8/07* AFRL, Rome, NY 13441.

Consultant, *6/05 to 8/05* AOL, Dulles, VA 20166.

Faculty Fellow, *7/00 to 8/00* Human Interface Lab, Motorola Labs, Tempe, AZ 85284.

Associate Professor/Senior/Lecturer, *1/99, 1/96, 1/94 to 10/00, tenured*
School of Computing, National University of Singapore, Singapore 119260.

Project Leader, *6/92 to 1/94* and Senior/Scientist, *11/89 to 1/94*
Artificial Intelligence Systems Section, Customer Services and Systems Branch
Telstra Research Laboratories, 770 Blackburn Road, Clayton, Vic 3168, Australia.

RESEARCH INTERESTS

- Feature Selection and Data Preprocessing Handling Big Data
- Social Computing and Mining Social-Media Data
- Group Profiling and Interactions, and Text Analytics
- Data Mining, Web Mining, Machine Learning, and AI
- Data Collection and Curation with Multi-Source Data Integration

SBP-BRiMS2017 Life Time Achievement Award, International Conference on Social Computing, Behavioral-Cultural Modeling, & Prediction and Behavior Representation in Modeling and Simulation, George Washington University, Washington, DC, July 5-7, 2017.

*2016 Fulton Faculty Exemplar*¹, Ira A Fulton Schools of Engineering, Arizona State University, May, 2016.

¹<http://intheloop.engineering.asu.edu/2016/05/13/note-from-kyle-2016-fulton-faculty-exemplars-and-outstanding-assistant-professors/>

Best Researcher (Senior Faculty) Award (2015), School of Computing, Informatics, and Decision Systems Engineering, Arizona State University, May, 2016.

Best Researcher (Senior Faculty) Award (2014), School of Computing, Informatics, and Decision Systems Engineering, Arizona State University, May, 2015.

Best Researcher (Senior Faculty) Award (2013), School of Computing, Informatics, and Decision Systems Engineering, Arizona State University, May, 2014.

The 2014 President's Award for Innovation at ASU, PI of Team Award on Empowering Humanitarian Assistance and Disaster Relief with Social Media and Data Analytics, April 2, 2014.

Best Researcher (Senior Faculty) Award (2012), School of Computing, Informatics, and Decision Systems Engineering, Arizona State University, May, 2013.

The Distinguished Contributions Award, PAKDD 2012, Kuala Lumpur, Malaysia, May 2012.

One of the 41 ACM Distinguished Scientists for Computing Innovations named by ACM in 2010.

Best Researcher (Senior Faculty) Award (2010), School of Computing, Informatics, and Decision Systems Engineering, Arizona State University, May, 2011.

The Most Influential Paper Award (2010) of PAKDD for the paper of “Feature Selection for Clustering” by M. Dash and H. Liu, published in the proceedings of PAKDD 2000.

Researcher of the Year Award (2008), Department of Computer Science & Engineering, School of Computing and Informatics, Arizona State University, April 2009.

TEACHING EXPERIENCE

The Teacher of the Year Award, Department of Computer Science & Engineering, Arizona State University, April 2005.

- FSE/CIDSE Course Development of Machine Learning Component for ASU Coursera MCS Course Data Visualization (Summer 2017 - Spring 2018)
- Advanced Topics in Social Media Analysis (CSE691) (Fall 2016, Fall 2017)
- Social Media Mining (CSE472/598, ASU) (Fall 2014, Fall 2015)
- Social Media Mining (CSE494/598, ASU) (evolved from Social Computing and Web Analytics 2011, 2012)
- Social Computing and Web Analytics (CSE494/598, ASU) (created in 2008, 2010)
- Introduction to AI (CSE 471/598, ASU)
- Computing Ethics (CSE 301, ASU)
- Introduction to Data Mining (CSE 494, ASU) (created in 2003 with an NSF grant)
- Data Mining (CSE 572, ASU) (created in 2000)
- Concepts of Computing (CSE 200, ASU)
- Machine Learning and Neural Networks (CSE 3244, NUS) (created in 1995)
- Algorithms and Data Structures (IC 2101, NUS)

- Advanced Topics: Data Mining and Data Warehousing (IC 52c2, NUS)
- Introduction to Artificial Intelligence (CS 205A, NUS)

The largest number of students in a class: ~500 students at NUS, and ~120 students at ASU.

POST-DOCTOR SCIENTISTS

1. Dr. Vineeth Rakesh, August 2017 - July 2018
2. Dr. Tanatorn Tanantong, January - May 2016
3. Dr. Uraz Yavanoglu, May 2015 - April 2016
4. Dr. Xia Ben Hu, May 2015 - August 2015
5. Dr. Shamanth Kumar, May 2015 - June 2015
6. Dr. Zigang Huang (PI. Ying-Cheng Lai), 50%, May 2014 - July 2015
7. Dr. Zhuo Feng, May 2012 - May 2013
8. Dr. Peng Zhang (PI. Baoxin Li), 50%, Spring 2012 - December 2013
9. Dr. Sai Moturu, Fall 2009 - Summer 2010
10. Dr. Gabriel Fung, Spring 2010 - Fall 2010

SUPERVISION of Ph.D. STUDENTS

1. Suhang Wang, Ph.D., Network Representation Learning in Social Media, August 2018. Tenure Track, Assistant Professor, College of Information Science and Technology, Pennsylvania State University. Fulton Schools of Engineering 2018 Dean's Dissertation Award.
2. Suhas Ranganath, Ph.D., Facilitating Efficient Information Seeking in Social Media, October 2017. Walmart Labs, Sunnyvale, CA. Co-Supervised with Professor Ying-Cheng Lai.
3. Philippe Christophe Faucon, Ph.D., Gene Network Inference via Sequence Alignment and Rectification, August, 2017.
4. Fred Morstatter, PhD, Discovering and Mitigating Social Data Bias, June 2017. USC ISI.
5. Somnath Shahapurkar, PhD, Crossing the Chasm: Deploying Machine Learning Analytics in Dynamic Real-World Scenarios, October 2016. FICO.
6. Robert (Rob) Trevino, Big Data Analysis of Bacterial Inhibitors in Paralleized Cellomics - A Machine Learning Approach, Ph.D., Fall 2016, AFRL
7. Yunzhong Liu, Patient-Centered and Experience-Aware Mining for Effective Information Discovery in Health Forums, co-supervised with Professor Yi Chen. May, 2016. LeEco US.
8. Magdiel Galan, PhD, Leveraging Collective Wisdom in A MultiLabeled Blog Categorization Environment, July 2015. Intel.

9. Reza Zafarani, Ph.D., Making Thin Data Thick: User Behavior Analysis with Minimum Information, May 2015. Tenure Track, Assistant Professor, Syracuse University.
10. Xia Ben Hu, Ph.D., Mining Content and Relations for Social Spammer Detection, April 2015. Outstanding Graduate Student Award in Fulton Schools of Engineering (May 13, 2015). Tenure Track, Assistant Professor, Texas A&M University.
11. Shamanth Kumar, Ph.D., Social Media Analytics for Crisis Response, April 2015. Castlight Health.
12. Pritam Gundecha, Ph.D., Managing User's Vulnerability on a Social Networking Site, March 2015. IBM Research Almaden
13. Jiliang Tang, Ph.D., Computing Distrust in Social Media, Feb 2015. Yahoo Labs. (i) Outstanding Computer Science PhD Student in CIDSE Award (May 1, 2015), (ii) Fulton Schools of Engineering Dean's Dissertation Award (May 13, 2015), and (iii) ACM SIGKDD2015 Doctoral Dissertation Award Runner Up.
14. Huiji Gao, Personalized POI Recommendation on Location-Based Social Networks, November 2014; LinkedIn, February 2015 ((i) Huiji Gao and Jiliang Tang won "The 3rd Place Dedicated Task 2: Next Location Prediction", Mobile Data Challenge by Nokia, June 19, 2012; (ii) ASU Graduate College Fellowship 2014-2015)
15. Ali Abbasi, Understanding Social Media Users via Attributes and Links, November 2014; Quid, January 2015; (Best Student Paper Runner Up, International Conference on SBP 2012)
16. Salem Alelyani, Feature Selection Stability: A Data Perspective, April 2013, Assistant Professor, King Khalid University, Abha, Asir, Saudi Arabia.
17. Xufei Wang, Connecting Users with Similar Interests for Group Understanding, April, 2013, LinkedIn.
18. Geoffrey Barbier, Information Provenance in Social Media, Fall 2011, Air Force Research Labs.
19. Lei Tang, Learning with Large Scale Social Media Networks, Summer 2010, Yahoo!Labs.
20. Zheng Zhao, Spectral Feature Selection, Summer 2010, SAS. (Outstanding Ph.D. Student in CSE, ASU, 2008)
21. Nitin Agarwal, Social Computing on Blogosphere, Summer 2009, University of Arkansas at Little Rock, Assistant Professor; (Outstanding Ph.D. Student Finalist in SCI, ASU in April 2009).
22. Sai Moturu, Quantifying the Trustworthiness of User-Generated Social Media Content, Summer 2009, Media Lab, MIT. (Best Student Paper Award at HealthInfo2008).
23. Lei Yu, Redundancy-based Feature Selection for High-Dimensional and Application in Bioinformatics, Summer 2005, SUNY Binghamton, Tenure Track, July 2005; (Outstanding Ph.D. Student in CSE, ASU, April 2005)
24. Manoranjan Dash, Efficient Clustering for Knowledge Discovery in Large High-Dimensional Databases, June 2002, Nanyang Technological University, Assistant Professor.

*** The Following PhD Students are In Progress with Starting Semester ***

25. Isaac Jones, Spring 2013, Detecting Small Communities of Interest in Social Media, in progress
26. Suhang Wang, Spring 2014, in progress
27. Tahora Hossein Nazer, Spring 2014, in progress
28. Jundong Li, Fall 2014, in progress
29. Liang Wu, Fall 2014, in progress
30. Ghazaleh Beigi, Fall 2014, in progress
31. Kai Shu, Fall, 2015, in progress
32. Lu Cheng, Ph.D., Fall 2017, in progress
33. Nur Shazwani Kamrudin, Ph.D., Fall 2017, in progress
34. Ruocheng Guo, Ph.D., Fall 2017, in progress
35. Bing Hu, Ph.D., Spring 2018, in progress

SUPERVISION of MASTER'S STUDENTS

1. Matthew Davis, MS, Spring 2019 -
2. Deepak Mahudeswaran, MCS, Spring 2018 - (project assistant)
3. Rohit Bhanushali, MCS, Spring 2018 - Fall 2018 (project assistant)
4. Abhay Joshi, MCS, Spring 2018 - Fall 2018 (project assistant)
5. Chetan Gupta, MS, Fall 2017 - Spring 2018 (project assistant)
6. Venkatesh Magham, MS, Fall 2017 - Spring 2018 (project assistant)
7. Shobhit Sharma, MCS, TweetTracker, Spring 2017 - Fall 2017 (project assistant)
8. Kunal Bansal, MCS, TweetTracker+Bot Detection, Spring 2017 - Fall 2017 (project assistant)
9. Justin Sampson, MS, Spring 2016, in progress
10. Kewei Cheng, Mining Signed Social Networks Using Unsupervised Learning Algorithms, February 2017
11. Harsh Dani, Sentiment Informed Cyberbullying Detection in Social Media, January 2017.
12. Ran Wang, Toward Small Community Discovery in Social Networks, April 2015.
13. Ashwin Rajadesingan, Detecting Sarcasm on Twitter: A Behavior Modling ApproachSecurity Issues in Social Media, Fall 2014.
14. Aneeth Anand, Feature Selection for Multi-Source Data, Spring 2012.
15. William Cole, Opinion Mining, Summer, 2011.

16. Gayathri Varadarajan, Collective Computation based Data Mining for Prognostics and Health Management, Fall 2010.
17. Shamanth Kumar, Comparative Mining in Blogosphere, (status changed to Ph.D.)
18. Shankara Bhargav Subramanya, View Completion using Multi-Source Data, graduated July 2008, Amazon.
19. Sanjay Sundararajan, (MCS) Analysis of Group Interaction on Blogosphere, graduated Spring 2008, Progressive.
20. Payam Refaeilzadeh, Semi-supervised Feature Selection, graduated Spring 2007, Microsoft Redmond.
21. Ashutosh Tiwari, (MCS), Clustering of Stream Data, graduated Spring 2007.
22. Niyati Parikh, Event Detection from Heterogeneous Data in Sensor Networks, Fall 2006.
23. Lance Parsons, Integrated Learning from Microarrays - Discovering Subtypes of Glioblastoma, Fall 2006.
24. Surendra Singhi, Selection Bias in Machine Learning, graduated Fall 2005.
25. Magdiel Galan, (MCS) Instance Selection for Stream Data, Summer 2005, continued in ASU Ph.D. program.
26. Ehtesham Haque, Subspace Search for Web Mining Applications, Fall 2004
27. Srihari Venkatesan, Intelligent Driving Data Analysis, Fall 2004, Yahoo!.
28. Jigar Mody, Selective Voting for Ensemble Methods, Spring 2004, Microsoft Redmond.
29. Amit Mandivikar, Active Learning for Image Mining, Fall 2003, Microsoft Redmond.
30. Deepak Kolippakkam, View Validation for Image Mining, Fall 2003, Roskamp Institute (Bioinformatics).
31. Snehal Kundalkar, (MCS) Intelligent Data Extraction, Fall 2003.
32. Reshma Suvarna, Using Meta Data and Namespaces in Data Mining, Spring 2003, HP.
33. Jianhua Han, (MCS) Meta Data and RDF in Data Mining, Spring 2002
34. Dimuthu Prasanna Makawita, Sampling from Databases Using B⁺Trees, 2000.
35. Kian Sing Ng, Real World Applications of Data Mining, 1999.
36. Ying Lu, On Multivariate Discretization, 1999.
37. Jun Yao, Process View of KDD: Techniques for Multiple Stages of KDD, 1998.
38. Manoranjan Dash, Feature Selection - A Preprocessing Step in Data Mining Graduated, 1998.

Also served on numerous PhD and MS thesis committees, and as an external Ph.D. and Master's thesis reviewer for universities in Australia, Hong Kong, and Singapore.

SUPERVISION of UNDERGRADUATE STUDENTS

1. Matthew Davis, Honors, Spring 2018 - Fall 2018; NSF REU, Fall 2018; FURI, Summer and Fall 2018;
2. Jennifer Berumen, NSF REU, Fall 2017 - Spring 2018; FURI, Fall 2018 - Spring 2019;
3. Marcus Stilwell, FURI, Fall 2018;
4. Alex Nou, Summer 2017 - ; FURI, Spring 2018;
5. Sarah Smallwood, Aerospace Engineering, Honor's Theis (2nd Reader). Fall, 2017 - Spring 2018
6. Lilian Ngweta, Honors, Fall 2017 - Spring 2018
7. Daniel Baird, research preparation for FURI, Fall 2016; Honors Thesis, Fall 2017 - Spring 2018
8. Christina Wilmot, Honors Thesis, Fall 2016 - Spring 2017
9. Lewis Ruskin, Honors Thesis, Spring 2016 - Spring 2017
10. Kian Fakhri, Honors Thesis, Fall 2016.
11. Daniel Baurd, research preparation for FURI, Fall 2016
12. Grant Marshall, REU student, December 2011 - 2013; FURI x 2 Fall 2011; Honor's Thesis, Fall 2014 - 2015
13. Mark Karlsrud, Honor's Thesis, Fall 2014 - 2015
14. Daniel Howe, REU student Summer 2013 - 2015
15. Aaron Mattson, Honor's Thesis, 2nd Reader, Fall 2012 - Spring 2013
16. Garret Walliman, Honor's Thesis, 2nd Reader, Fall 2012 - Spring 2013
17. Luke Pirtle, Summer 2012 - March 2013
18. Shantanu Bala, Fall 2011 - Spring 2012
19. Lin Yang, Fall 2011 and Spring 2012
20. Patrick Mcinerney, Honors Project, *Intelligent Data Collection*, Fall 2010 - Spring 2011
21. Fred Morstatter, *Feature Selection Software Package*, CRA Outstanding Undergraduate Researchers Award (Honorable Mention, 2010), Fall 2009 - Spring 2011
22. Patrick Kreckler, Honors Project, *Social Media Study*, Fall 2009 - Spring 2010
23. David Weber, Honors Project, *Identifying Communities in Disguise*, co-supervisor, 2008.
24. Daniel Casey, student research project, *Adaptive Stream Sampling for Sensors*, Spring 2005.
25. Andrew B. Call, project, *Case Study in Data Warehousing*, Spring 2004.
26. Robert Fitzgerald, Honors Project (incomplete *An Examination of of Selection Bias in Machine Learning*, 2003.
27. Bret Ehlert, Honors Project, *Active Feature Selection*, Fall 2000.

28. Jian Shu, Honors Thesis, *Feature Discretization and Evaluation*, 1998.
29. Yin Yin Chong, Honors Thesis, *Feature Selection Techniques and Visual Aids*, 1995.
30. Boon Poh Lee, Honors Thesis, *An Active Planner in Multi-Media Environment*, 1995.

High School Students visiting ASU (2016, 2013, 2012)

1. Ricky Hsu; Soumya Kambhamparti, Terry Wen, Daria Bazzi

Visiting Scholars at ASU

1. Gan Wei, Graduate Student, Xian Jiaotong University, Xian, November 2018 - May 2019
2. Saul Solorio Ferbabdez, PhD Student, National Institute of Astrophysics, Optics, and Electronics, Puebla, Mexico, September 2018 - April 2019
3. Shuo Steve Yang, PhD Student, Shanghai Jiaotong University, Shanghai, September 2018 -
4. Shan-Yun Sharon Teng, PhD Student, National Cheng Kung University, Taiwan, August 2017 - July 2018
5. Xuying Meng, PhD student, Institute of Computing Technology, Chinese Academy of Sciences, September 2016 - March 2017 Dr. Uraz Yavanoglu, Gazi University, Turkey, May 2015 - April 2016
6. Augusto Andrade, PhD Candidate, Spring, Summer, and Fall 2011, University of So Paulo – USP, Feature Selection for Clustering.
7. Zhuo Feng, PhD Candidate, Fall 2011 - Spring 2012, University of Arizona, Web Search.

Visiting Professors/Scholars at ASU

1. Professor Hai Huang, Beijing University of Post and Telecommunications, October, 2018 - October, 2019
2. Professor Yufeng Yu, HoHai University, August 2018 - August 2019
3. Professor Min Gao, Chong Qing University, December 2017 - January 2019
4. Mr. Fang Chen, Library of Chinese Academy of Sciences, November, 2017 - April, 2018
5. Professor Chen Chen, Nankai University, August, 2017 - July, 2018
6. Dr. Yinglong Zhang, East China Jiaotong University, Nanchang, Jiangxi, September, 2016- August, 2017
7. Dr. Tanatorn Tanantong, Rangsit University, Pathum Tani, Thailand, January - May 2016
8. Professor Ling Jian, China University of Petroleum, Qingdao, Shandong, September, 2015 - August, 2016
9. Professor Jongwon Seok, Changwon National University, September 2014 - August 2015

10. Professor Zhen Yang, Beijing University of Technology, February 2014 - March 2015
11. Professor Ying Wang, Jilin University, September 2013 - September 2014
12. Professor Guoyong Cai, Guilin University of Electronic Technology, January 2013 - July 2013
13. Professor Shijin Li, HoHai University, May 2012 - May 2013
14. Professor Yingzhou Bi, Guangxi Teacher Education University, Spring 2012 - February 2013
15. Professor Yimin Wen, Guilin University of Electronic Technology, Spring 2012

GRANTS AND PROJECTS

- III:Small: Discovering and Characterizing Implicit Links in Graph Data, \$495,123, NSF (#1614576), 10/01/2016 - 09/30/2019.
- Developing Novel Socio-Computational Methodologies to Analyze Multimedia-based Cyber Propaganda Campaigns, \$210,400, UALR, 06/01/2017 - 12/31/2018.
- II-NEW: GEARS - An Infrastructure for Energy-Efficient Big Data Research on Heterogeneous and Dynamic Data, \$750,000, NSF (#1629888), 09/01/2016 - 08/31/2019. PI: Ming Zhao; Co-PIs: Fengbo Ren, Hasan Davulcu, Huan Liu, K. Selcuk Candan.
- TweetTracker Interface Adapter Design Support and Evaluation, Progeny Systems Corporation, \$124,069, 08/10/2016 - 07/05/2018.
- CDS&E/Collaborative Research: DataStorm: A Data Enabled System for End-to-End Disaster Planning and Response, \$692,774, NSF (#1610282), 08/01/2016 - 07/31/2019. PI: K. Selcuk Candan; Co-PIs: Huan Liu, Ming Zhao, Pitu Mirchandani.
- Using Social Media as Crowd-Sourcing Sensors - An Analytics Approach \$135,000, Charles River Analytics, 07/29/2016 - 02/12/2018.
- Intelligent Analysis of Big Social Media Data for Crisis Tracking, \$450,000, ONR (N00014-16-1-2257), 02/01/2016 - 12/31/2017.
- Research Area 5.3.3: Sybil-Resilient Influence Measurement in Microblogging Systems, \$450,000, ARO (W911NF-15-1-0328), 7/15/2015 - 7/14/2018, Co-PI, 40% (PI: Yanchao Zhang)
- Social Media Characterization, \$70,000, National Security Innovations (NSI), Inc., 4/15/2014 - 2/28/2015.
- Social Media Analytics for Bots, Charles River/SBIR, \$24,000, 7/6/2015 - 02/08/2016.
- Disaster Preparation and Response via Big Data Analysis and Robust Networking, \$300,000, NSF, 3/1/2015 - 2/28/2018, Co-PI, 40% (PI: Guoliang Xue)
- Developing Novel Auxiliary Technologies for Crisis Tracking, \$750,000, ONR (N000141410095), 1/1/2014 - 12/31/2015.
- Computational Exploration of Noise in Social Media, \$50,000, ARO-STIR, 8/15/2013 - 5/30/2014, Co-PI, 50% (PI: Guoliang Xue).
- Content Analysis of Social Media, \$47,695, FleishmanHillard, 8/1/2013 - 11/30/2013.

- Modeling of Complex Systems: Mining Suspicious Tiny Sub-Networks in a Massive Social Network, \$75,000, UIUC, 6/1/2013 - 11/30/2014
- Multi-Source Assessment of State Stability, \$449,070, CMU/Minerva, 6/1/2013 - 5/31/2018.
- REU: III: Small: Transforming Feature Selection to Harness the Power of Social Media, \$15,998, associated with NSF (IIS-1217466), 9/1/2012 - 8/31/2015.
- III: Small: Transforming Feature Selection to Harness the Power of Social Media, \$410,389, NSF (IIS-1217466), 9/1/2012 - 8/31/2015.
- High-School Apprenticeship Program (HSAP) Research: Information Provenance for Social Media, \$6,114, 2013, associated with ARO(#25071).
- CASP: Center for Humanitarian and Social Media Data Storage and Processing, \$97,980, DURIP, 2012, ONR (N000141210808).
- High-School Apprenticeship Program (HSAP) Research: Information Provenance for Social Media, \$9,342, 2012, associated with ARO(#25071).
- ARO SBP 12-13 Sponsorship for International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction, \$13,600, ARO Grant No.: W911NF-12-1-0119. 3/13/2012 - 11/12/2013.
- Assessing Trustworthiness in Social Media: A Social Computing Approach, ARO (025071), 11/01/2011 - 10/31/2014. \$374,978.
- CPS:Medium: GoingEasy with Crowdsourcing - Building Cyber-Physical Systems for People with Visual Impairment, NSF (1135616), 10/01/2011 - 09/30/2015, \$1,000,000, Co-PI, 30% (PI: Baoxin Li).
- NIH SBP 11-14 Sponsorships - International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction, \$94,073, Award No.: R13 GM097967, 03/04/2011 - 02/28/2015.
- The Role of Social Media in Trusted Collaboration for Disaster Relief, ONR (N000141110527), PI, 03/01/2011 - 12/31/2013, \$607,197.
- NSF Conference Sponsorship for the Third International Conference on Social Computing, Behavioral Modeling, and Prediction, NSF (1019597), PI, 04/01/2010 - 03/31/11, \$7,500, 100%.
- BlogTrackers: Analyzing Social Media for Cultural Modeling, ONR (N000141010091), PI, 01/01/2010 - 09/30/2013, \$773,225.
- III-Medium: A Machine Learning Approach to Computational Understanding of Skill Criteria in Surgical Training, NSF (001319), 07/15/2009 - 06/30/2013, \$874,484, co-PI, 30% (PI: Baoxin Li).
- Developing Cultural Analysis and Sociological Network Theory for Understanding Virtual Communities, Collaborative Project, University of Hawaii/AFOSR, PI, 01/01/2009 - 11/30/2011, \$480,983, 100%.
- Online Social Behaviors and Prediction of their Implications for the Physical World: A Comparative Study, Part 1, 06/01/2009 - 07/31//2011, Collaborative Project, University of Hawaii/ONR, PI, \$259,144, 100%.

- NSF REU Grant for III-COR-Small: Beyond Feature Selection and Extraction - An Integrated Framework for High-Dimensional Data of Small Labeled Samples, NSF, IIS (0936275), PI, 4/29/2009 -. \$16,000, 50%.
- DHS COE in Border Security and Immigration - Effective Reduction of High False Alarm Rates, (University of Arizona is the lead institute), 7/1/2008 - 6/30/2011.
- Second International Workshop on Social Computing, Behavioral Modeling, and Prediction. HHS-NIH-NIGMS-National Institute of General Medical Sciences (R13GM087995), PI, 3/16/09 - 3/15/10, \$12,000, 100%.
- Conference Sponsorship: Second International Workshop on Social Computing, Behavioral Modeling, and Prediction, ONR, PI, 12/01/2008 - 05/30/2009, \$5,000, 100%.
- NSF Workshop Sponsorship for the Second International Workshop on Social Computing, Behavioral Modeling, and Prediction, NSF, 01/15/009 - 12/31/2009, \$2,000, 100%.
- A Collective-Computation Approach to Prognostics Health Management, NASA, PI, 09/01/2008 - 08/31/2009, \$200,000, 34%
- III-COR-Small: Beyond Feature Selection and Extraction - An Integrated Framework for High-Dimensional Data of Small Labeled Samples, NSF, PI, 8/2008 - 7/2011, \$430,626, 50%
- Modeling Group Interaction via Open Data Sources, AFOSR, PI, 3/2008 - 2/2011, \$459,510, 100%.
- BlogTrackers: Combining Domain Knowledge and Novel Search Capabilities for Assessing Political Risks, ONR, 1/2008 - 10/2009, \$186,000, 70%.
- Link Mining of Textual Data, MITRE, PI, 9/2007-8/2008, \$50,000, 100%.
- DeepSearch for for Modeling Group Interaction Using Open Data Sources, Air Force Research Labs, PI, 8/2007 - 12/2007, \$26,000, 100%.
- Enhanced Data Accessibility Using Web Services Technology, Arizona Water Institute, Co-PI, (PI: Kyle Carpenter), 1/2007 - 12/2007. \$50,000, 10%.
- Environmental and Economic Impacts of Material Used in Future Urban Development, Co-PI, (PI: John Crittenden), 4/2007 - 3/2008, \$400,000, Arizona Science Foundation, 6%.
- Enabling the Study of Long-Term Human and Social Dynamics, NSF (BTS 0022), Co-PI, (PI: Keith Kintigh), 9/2004 - 8/2005, \$100,000, 5%.
- Modeling Driving Data, Motorola, PI, 5/2004 - 8/2004, \$13,605, 100%.
- Synthesis of Streaming Data from Multiple Sensors via Embedded Data Extraction, CEINT, PI, 1/2004 - 8/2005, \$52,102, 100%.
- MEASURES: A Proof of Concept Demonstration (Multi-scale Environmental Analysis in Urban and Regional Ecosystems), Senior Personnel, (PI: H.J. Fernando), NSF, 8/15/04 to 7/14/05, \$100,000, 30%.
- ET-I3: Enabling Technologies for Intelligent Information Integration, Co-PI, (PI: Subbarao Kambhpati), ASU-AZ, 6/2003 - 7/2005, \$200,000, 20%.

- Intelligent Driving Data Analysis, Motorola, PI, 1/2003 - 12/2003, \$19,549, 100%.
- A Collaborative Project: Development of An Undergraduate Data Mining Course, NSF (DUE: 0231448), PI, 1/2003 - 12/2004, \$52,720, 100%.
- Intelligent Data Extraction in an Automobile Environment, IMES/FORD, PI, 9/2002 - 8/2003, \$27,000, 100%.
- Toward a Unified Taxonomy for Feature Selection, NSF (IIS: 0127815), PI, 8/2001 - 7/2002, \$54,999, 100%.
- A Data Mining Approach for Detecting Egeria in Digital Imagery, SFSU, PI, 1/2002 - 12/2003, \$101,918, 100%.

The following projects were conducted at National University of Singapore.

- Integrated Machine Learning Workbench for Data Mining, Japan Ministry of Education, PI (at NUS), (PI at Osaka University: Hiroshi Motoda), 1999 - 2001, about US\$100,000.
- Program of Research in Intelligent Systems, National Science and Technology Board and Ministry of Education of Singapore, Associate Director and Co-PI, (PI: Tat-Seng Chua, Co-PI: Chris Marshall), 1998 - 2000, S\$3M.
- Data Mining and Intelligent Data Analysis, National Science and Technology Board and Academic Research Council of Singapore, PI, S\$70,000, 1998-1999.
- Knowledge Discovery in Gifted Education Program, Academic Research Council of Singapore in collaboration with Singapore Ministry of Education, Co-PI, (PI: Chew-Lim Tan), S\$161,700, 1998-2000.
- *A Unified Approach to Data Mining.* Academic Research Council, PI, 1997-1998, S\$65,000.
- *A Comprehensive Computer System for Data Discretization.* National Computer Board and Academic Research Council, PI, 1995-1996, S\$68,000.
- *An Automated Tool for Knowledge Acquisition.* Academic Research Council, PI, 1994 - 1995, S\$ 70,000.

PATENTS AND DISCLOSURES

- Reza Zafarani and Huan Liu. "User Identification Across Social Media". United States Patent No. 9,544,381; Date of Patent: January 10, 2017.
- Hua-Jun Zeng, Jian-Tao Sun, Wei-Ying Ma, Zheng Chen, Benyu Zhang, and Huan Liu. "Augmenting User, Query, and Document Triplets Using Singular Value Decomposition. Patent No.: US 7,747,618, B2; Date of Patent: Jun. 29, 2010.
- CrisisTracker: Mobile Social Media Dashboard for First Responders. ASU Disclosure ID: M14-006P. Morstatter et al. 7/1/2013
- TweetTracker Desktop: A Twitter Monitoring and Analysis Platform. ASU Disclosure ID: M13-133P. Kumar et al. 2/13/2013

- ACT (ASU Coordination Tracker). ASU Disclosure ID: M13-126P. Gao and Liu. 2/11/2013
- User Identification Across Social Media. ASU Disclosure ID: M13-100P. Zafarani and Liu. 12/6/2012
- TweetXplorer. ASU Disclosure ID: M13-067P. Kumar et al. 9/24/2012
- Tweet Tracker Mobile. ASU Disclosure ID: M12-077P. Morstatter et al. 12/7/2011
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25. "Handling Large Unsupervised Data via Dimensionality Reduction", (with M. Dash), SIGMOD Data Mining and Knowledge Discovery Workshop (DMKD), May 30, 1999. Philadelphia, USA.
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Ph.D. THESIS

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Thesis Advisor: Dr. George A. Bekey.

TECHNICAL REPORTS

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INVITED TALKS

- “Big Social Media Data and New Challenges for Machine Learning”, Invited Talk as a distinguished speaker, 2018 International Conference on Data Science, Shanghai. December 15-18, 2018.
- “Data and Evaluation Challenges in Social Media Mining”, Keynote, the Second International Workshop on Automation in Machine Learning and Big Data (AtuoML), co-located with IEEE BigData2018, Seattle, Washington. December 13, 2018.
- “Research Opportunities in Social Media Mining: Tools, Data, and Challenges”, Second International Workshop on Artificial Intelligence and Optimization (WAIO18), remote participation via video conferencing, Chiapas, Mexico. November 8, 2018
- “Big Social Media Data and Challenges for Machine Learning”, School of Computer Science, Beijing University of Posts and Telecommunication, Beijing, October 17, 2018
- “Hypes, Reality, and Opportunities of Big Social Data”, Panelist, IEEE Services 2018, San Francisco, CA. July 6, 2018.
- “Big Social Media Data and Some Associated Challenges”, Northwestern Polytechnical University, Xi’an. June 7, 2018.
- “Big Social Media Data and Some Associated Challenges”, FuDan University, Shanghai. June 4, 2018.
- “Mining Misinformation and Fake News on Social Media”, The First Joint CS Guest Seminar and ISCS AT&T Distinguished Speaker Series, University of Texas, San Antonio, March 27, 2018.
- “Social Computing Challenges in the Age of Misinformation/Fake News”, Invited Lightning Talk, South Big Data Hub ”Security, Networks, and Social Computing Working Group”, March 1, 2018.
- “Challenges in Acquiring Social Media Intelligence from Data”, ARL Research Talk, Adelphi, MD, Feb 21, 2018
- “Big Social Media Data and Some Associated Challenges”, Invited Talk in Big Data Analytics, International Conference on Data Science, Shanghai, China. December 17 - 19, 2017.
- “Ethics and Professionalism in the age of Social Data”, Panel, IEEE International Conference on Data Mining (ICDM), New Orleans, Louisiana. November 21, 2017.
- “From AI to AI: Acquiring Intelligence in Big Data - A Social Media Study”, Taian, AI and Technology Track, AI and Law Conference, Taian, Shandong, China. September 1, 2017.

- “Big Data + Deep Learning = A Universal Solution?”, Keynote, 6th International Workshop on Big Data, Streams and Heterogeneous Source Mining: Algorithms, Systems, Programming Models and Applications (KDD BigMine 17), Halifax, Nova Scotia, Canada. August 14, 2017.
- “From AI to AI: Acquiring Social Media Intelligence via ‘Big’ Data”, Keynote, International Conference on Social Computing, Behavioral-Cultural Modeling & Prediction and Behavior Representation in Modeling and Simulation (SBP-BRiMS2017), Washington DC, July 7, 2017.
- “Tactics, Techniques and Procedures in the Social Media Environment”, Panel, Trends in Social Media and Their Further Development Seminar, Riga, Latvia. March 20, 2017.
- “When AI Meets Social Media Intelligence - The Need for New Thinking and New Methods”, South Big Data Hub, Data Science Roundtable on Anti-Social Computing: Bots, Lies, and the New Information Environment, Institute for Software Research, CMU. March 9, 2017.
- “The Good, the Bad and the Ugly: Uncovering Novel Opportunities of Data Science”, Shanghai Jiao Tong University, Shanghai, China, December 26, 2016.
- “Searching for Credible Information via Social Media Mining”, Beijing University of Technology (BJUT), Beijing, China, December 22, 2016.
- “Evaluation Dilemmas in Social Media Research”, Keynote, NLPCC-ICCPOL2016, Kunming, China, December 2-6, 2016
- “Fundamentals and Challenges in Mining Social Media”, NLPCC-ICCPOL 2016 Tutorials / ADL 74 Program, Kunming, China, December 2-4, 2016.
- “The Good, the Bad and the Ugly: Uncovering Novel Opportunities of Data Science”, Keynote, Duke Forest Conference 2016, Durham North Carolina, November 11-13, 2016
- “Some Challenges in Using Social Media Data for Disaster Response”, Keynote, CIKM2016 Workshop on Social Web for Disaster Management (SWDM’16) October 28, 2016
- “Evaluation Dilemmas in Social Media Research”, Keynote, 28th Conference on Computational Linguistics and Speech Processing (ROCLING2016), Tainan, Taiwan, October 6-7, 2016
- “The Good, the Bad and the Ugly: Uncovering Novel Opportunities of Data Science”, CUHK, June 16, 2016
- “The Good, the Bad and the Ugly: Uncovering Novel Opportunities of Data Science”, CAS Institute of Software, June 14, 2016
- “The Good, the Bad and the Ugly: Uncovering Novel Opportunities of Data Science”, MSRA, June 13, 2016
- “Big Data and Deep Learning: Are They Made for Each Other?”, NSF Panel, SIAM International Conference on Data Mining (SDM2016), Miami, FL. May 6, 2016.
- “The Good, the Bad and the Ugly: Uncovering Novel Opportunities of Data Science”, University of Technology Sydney, AAI, Australia, April 19, 2016.
- “The Good, the Bad and the Ugly: Uncovering Novel Opportunities of Data Science”, IACS, Stony Brook University, NY, April 7, 2016.

- “Mining Social Media Data”, Hohai University, Jan 21, 2016; Nanjing University of Posts and Telecommunications, Jan 22, 2016.
- “Mining Social Media Data: Some Lessons Learned”, CS Graduate Colloquium, Brigham Young University, Nov 5, 2015
- “Discovering Negative Links on Social Networking Sites”, Yahoo!-DAIS Seminar, UIUC, Oct 30, 2015
- “Machine Learning for Computational Social Science”, CCS2015 Satellite Workshop of Computational Social Science: Contagion, Collective Behaviour, and Networks”, Tempe, AZ. October 1, 2015.
- “Mining Social Media Data for Behavior Analytics”, Plenary Presentation, Conference on Complex Systems (CCS2015) , Tempe, AZ. September 29, 2015.
- “Discovering Negative Links on Social Networking Sites”, Keynote, AusDM2015 and ICDS2015, Sydney, Australia. August 8-9, 2015
- “Employing Machine Learning to Help Verifying Research Hypotheses”, Invited Talk, Sister-Conference Presentation in Machine Learning Track, IJCAI2015. Buenos Aries, Argentina. July 30, 2015.
- “Data Mining and Advanced Topics”, Chinese Academy of Sciences (CAS) DragonStar Summer Lectures, Guilin, China. July 9-14, 2015
- “Advancing the Frontier of Social Media Mining”, invited talk, ICDM2014 Workshop on Social Multimedia Data Mining, Shenzhen, China. December 14, 2014.
- “Social Media Mining: Looking Ahead”, invited talk, Second HKUST-USC Big Data Applications Workshop, HKUST, China. December 12, 2014.
- “Social Meida Mining: Looking Ahead”, invited talk, Third China National Conference on Social Media Processing, Beijing, China. November 2, 2014.
- “Mining Social Media: Big Data, New Challenges”, keynote, Big Data Summit, Sydney, Australia. October 27 - 28, 2014.
- “Deepening Our Understanding of Social Media via Data Mining”, invited talk, LinkedIn, CA. October 6, 2014.
- “Keeping Pace with Big Data: A Data Mining Perspective”, keynote, NSF Workshop on Big Data Analytics for Infrastructure and Building Resilience and Sustainability, Beijing. Sept 19-20, 2014.
- “Advancing the Frontier of Social Media Mining”, CIDSE Faulty Talk Series, School of Computing, Informatics, and Decision Systems Engineering, Arizona State University, Tempe, AZ. September, 2014.
- Summer School on Foundations and Applications of Social Network Analysis & Mining, Hellenic Ameircan College, Athens, Greece. June 2-6, 2014.
- “Deepening Our Understanding of Social Media via Data Mining”, complexnetworks.fr, Jussieu, Universit Pierre-et-Marie-Curie, Paris. May 30, 2014.

- “Advancing the Frontier of Social Media Mining”, keynote 2014 AI Forum, National Taipei University, New Taipei City. May 17, 2014.
- “Some Challenging Problems in Mining Social Media”, Academic Seminar, East Bank, University of Minnesota, SOBACO (Social Media and Business Analytics Collaborative), April 22, 2014.
- “New Data Mining Opportunities of Social Media”, Industry Seminar Carlson School of Management, West Bank, University of Minnesota, SOBACO (Social Media and Business Analytics Collaborative), April 22, 2014.
- “Deception and Detection in Social Media”, AAAI2014 Spring Symposium on Social Hacking and Cognitive Security on the Internet and New Media, March 24, 2014. Stanford University
- “Too Messy to Understand? New Challenge in Mining Social Media”, CSE, Texas A&M University, December 4, 2013.
- “Too Messy to Understand? New Challenge in Mining Social Media”, EECS, Northwestern University, November 12, 2013.
- “Social Computing Challenges in Research and Applications” at Seminar on Social Computing and Crisis in the New Information Age, October 8 - 9, 2013. Brussels, Belgium. <http://www.iscintelligence.com/event.php?id=107>
- “Some Computational Challenges in Mining Social Media”, Keynote, The 2013 IEEE/ACM (ASONAM2013) International Conference on Advances in Social Network Analysis and Mining, August 25-28. Niagra Falls, Canada.
- “Making Sense of Social Media Data - Some of Our Lessons”, Invited Talk, Yahoo!-DAIS Seminar, UIUC. August 22, 2013.
- “A Brief Introduction to Social Media Mining”, China Computer Federation (CCF), Advanced Disciplines Lectures on Social Networks and Data Mining, Invited Lecture, August 3, 2013. Beijing, China.
- “Making Sense of Social Media Data - Some of Our Lessons”, Invited Talk, Seminar on Social Media and Big Data. August 2, 2013. Tsinghua University, Beijing.
- “Understanding Behavior in a Networked World via Social Media”, Invited Talk, July 30, 2013. National Cheng Kung University, Tainan.
- “Understanding Behavior in a Networked World via Social Media”, Invited Talk, July 26, 2013. National Taiwan University, Taipei.
- “Some Computational Challenges in Mining Social Media”, Invited Talk, July 25, 2013. Sinica Academia, Taipei.
- “Understanding Behavior in a Networked World via Social Media”, Plenary Talk, International Conference on Social Intelligence and Technology, SOCIETY2013, State College, Pennsylvania. May 9, 2013.
- “Some New Data-Mining Challenges with Social Media Data”, Keynote, the 17th Pacific-Asia Conference on Knowledge Discovery and Data Mining, Gold Coast, Australia. April 16, 2013.

- “Understanding Behavior in a Networked World via Social Media Data”, Invited Plenary Talk, International Conference on Computing, Networking and Communications, San Diego, CA. January 30, 2013.
- “Computing with Social Media Data”, Invited Talk, the Center for Social Dynamics & Complexity”, Arizona State University, January 24, 2013.
- “Some Computing Challenges in Understanding Social Media Data”, Keynote, the 4th China National Conference on Social Computing, November 15-16, 2012. Beijing, China.
- “Location-Based Social Networks”, Mobile Cloud Computing Panel, 26th IEEE Annual Computer Communications Workshop (CCW), November 9, 2012. Sedona, AZ.
- “Mining Social Media - A Brief Introduction”, Invited Tutorial, INFORMS, Annual Meeting, October 16, 2012. Phoenix, AZ.
- “Mining Social Media - A Brief Introduction”, Decision Systems Seminar, School of Computing, Informatics, and Decision Systems Engineering, October 11, 2012
- “Some ‘Big Data’ Challenges in Mining Social Media Data”, Computer and Information Science, IUPUI, September 7, 2012
- 3 Invited Talks on Social Computing, Beihang University, Beijing, August 8, 15 and 16, 2012
- “Some Challenges in Understanding Social Media”, Shanghai Jiaotong University, Shanghai, May 28, 2012.
- “Some Challenges in Mining Social Media Data”, Chinese Academy of Sciences, Beijing, May 25, 2012.
- “Some Challenges in Understanding Social Media”, Renmin University of China, Beijing, May 24, 2012.
- “Social Computing: Developing Theories and Advancing Applications”, Symposium on Web Data Science and Engineering - A New Inter-discipline, the Xiangshan Science Conference Series, Beijing, May 23, 2012.
- “Mining Social Media for Actionable Knowledge”, Integrated R&D Informatics & and Knowledge Management, the 19th Molecular Med TRI-CON 2012, Moscone North Convention Center, San Francisco, CA. Feb 22, 2012.
- “Mining Patterns in Social Media - A New Frontier”, The 3rd Workshop on Domain-Driven Data Mining with ICDM 2011, Keynote, Vancouver, Canada. December 11th, 2011.
- “Mining Social Media - Issues sand Challenges”, The 3rd SIGMM Workshop on Social Media in Conjunction with ACM Multimedia 2011, Keynote, Scottsdale, AZ. November 29th, 2011.
- “Understanding Collective Behavior in Social Media”, The 23rd IEEE International Conference on Tools with AI, Keynote, Boca Raton, Florida. November 8th, 2011.
- “When Connected, Are We Still in Control of Our Destinies?”, Language Technologies Institute Colloquium, Carnegie Mellon University, October 7, 2011.
- “In Social Media, Your Vulnerability May Be Beyond Your Control”, Information Assurance Center Monthly Seminar, Arizona State University, September 30, 2011. co-presentation with Pritam Gundecha.

- Invited Tutorial on “Exploiting Attribute-Value and Linked Data - Complexities and Opportunities in Social Computing”, Air Force Research Lab - Wright Patterson Workshop on “Computational Methods for Complex Data Analysis”, September 6-7, 2011.
- Invited Lecture, Lipari School of Computational Social Science on “Community Detection and Mining in Social Media”, Lipari Island, Italy, July 16 - 23, 2011.
- “Studying Human Behavior in Social Media”, LinkedIn, Mountain View, CA. July 7, 2011.
- “Studying Social Behavior in Social Media”, Department of Information Science and Electronic Engineering, Zhejiang University, December 18, 2010.
- “Studying Social Behavior in Social Media”, PAKDD2010 Workshop on Behavior Informatics (BI’10), June 21, 2010. Hyderabad, India.
- “Building a Social Media Tool for Sociological Studies”, ”Social Science and Social Computing: Steps to Integration” Workshop, May 22-23, 2010, University of Hawaii, Hawaii.
- “Searching for ‘Familiar Strangers’ in Blogosphere”, Annual Workshop on Information Assurance Research and Education, Information Assurance Center, Arizona State University, May 6, 2009.
- “Searching for Influencers and ‘Familiar Strangers’ in Blogosphere”, Navy Center for Applied Research in Artificial Intelligence, Naval Research Lab, NCARAI 2008-2009 Seminar Series, April 20, 2009.
- “Blogosphere, Communities, and Influential Bloggers”, University of Southern California, November 18, 2008.
- “Prognostics Health Management and Data Mining”, Adaptive Intelligent Materials and Systems (AIMS) Center Research Forum, Ira A. Fulton School of Engineering, Arizona State University, November 12, 2008.
- “Data Mining and Social Computing - Moving Forward in Interdisciplinary Research”, Computer Science and Engineering, Faculty Seminar Series, September 26, 2008
- “Data Mining and Machine Learning Overview”, Ira A. Fulton School Engineering, Research and Graduates Service Research Breakfast Forum on Computing and Informatics, September 24, 2008
- “Blogosphere: An Open Data Source for Social Cultural Research”, The AFOSR Workshop on Mathematical Process of Social-Cultural Modeling, Santa Barbara, September 4, 2008
- “Blog Community and Influential Bloggers”, Computer Science Department, University of California, Santa Barbara, September 2, 2008
- “Finding Influential Bloggers in a Community”, Microsoft Research, October 29, 2007
- “Searching for ‘Familiar Strangers’ on Blogosphere”, Microsoft AdCenter, October 29, 2007.
- “Evolving Feature Selection”, IBM T.J. Watson Research Center, July 6, 2007.
- “Online Group Interactions”, Air Force Research Lab, Rome, NY, June 22, 2007.
- “Active Feature Selection with Large Amounts of Data” M2004, The 7th Annual Data Mining Technology Conference, October, 2004.

- “Steganography and Data Mining”, IEEE Computer Society Phoenix, March, 2005.
- “An Introduction to Steganography with a Case Study of Steganalysis”, Lockheed-Martin and ASU Seminar, November, 2004.
- “Mining Learning and Assisting”, Microsoft Research Asia, July, 2004.
- “Data Mining and Data Warehousing”, Microsoft Research China, 2001.
- “Feature Selection and Instance Selection for Data Mining”, Management Information Systems, University of Arizona, October, 2000.
- “Feature Selection and Instance Selection”, Motorola Research Labs, June, 2000.
- “Feature Selection for Data Mining”, Microsoft Research China, 1999.
- “How the Service Industry Has Used Data Mining for Better Customer Service Management and Profitability”, Data Warehousing and Data Mining Conference – Using Information Technology to Achieve Business Goals, Asia Business Forum, 25 - 26 January 1999, Singapore.
- “A Brief Introduction of AI”, Singapore Ministry of Education Gifted Education Program 1998.
- “Preprocessing Tasks in Data Mining”, Kansai Advanced Research Center, Japan, May, 1997.
- “Data Mining and Applications”, Computer Science and Engineering, Kyushu Institute of Technology, Japan, May, 1997.
- “Feature Selection for Machine Learning”, Graduate School of Systems Management, The University of Tsukuba, Tokyo, Japan, May 1997.
- “Feature Selection for Machine Learning”, Computer Science, Tokyo Institute of Technology, Japan, May 1997.
- “An Approach to Verifying Knowledge Bases”, Computer Science Department, Monash University, Clayton, Australia, April, 1993.
- “Using Features in Concept Learning and Formation”, Robotics and Digital Technology Department, Monash University, Clayton, Australia, March, 1993.
- “Acquiring Knowledge through Concept Formation”, Systems Engineering Department, The Chinese University of Hong Kong, Hong Kong, March, 1993.
- “Planning with Intentions”, Computer Science Department, Hong Kong University of Science and Technology, Hong Kong. October, 1992.
- “Joint Concept Formation and Abstraction”, Computer Science Department, Hong Kong University, Hong Kong. September, 1992.
- “Concept Formation”, Computer Science Department, National University of Singapore, Singapore. September, 1992.
- “Applying Artificial Intelligence (AI) to Telecommunications”, Computer Science Department, Australia National University, Canberra, Australia. June, 1991.

- “AI in Telecommunications Networks Design”, Computer Science Department, University of Southern California, Los Angeles, U.S.A. Feb. 1991.
- “Grasping, Intentions and Planning”, Communications Research Laboratory, Kansai Advanced Research Center, Japan. Nov. 1990.
- “Some Cognitive Processes in Problem Solving”, (with Helga Rowe from ACER, Melbourne), at the Cognitive Science Meeting in Psychology and Computer Science Departments, Melbourne University, Melbourne, Australia. Oct. 1990.

PROFESSIONAL ACTIVITIES

EDITORIAL BOARD/ASSOCIATE EDITOR/ADVISORY BOARD

- Frontiers in Big Data, Specialty Chief Editor for Data Mining and Management (2018 -)
- Online Social Networks and Media (OSNEM), Elsevier (2017 -)
- ACM Transactions on Social Computing, (2016 -)
- Encyclopedia of Social Network Analysis and Mining, Section Editor of Social Communities (2012 -), Board Member (2016 -); 1st edition published in 2014
- ACM Transactions on Intelligent Systems and Technology (TIST), (Editorial Board) 2010 - 2018; Interim Editor in Chief, January - May, 2015
- IEEE Transactions on Network Science and Engineering, Associate Editor, 2014 - 2018
- Lecture Notes in Social Networks by Springer, Advisory Board, 2012 - 2017; Series Editor, 2017 -
- Social Network Analysis and Mining Journal, Editorial Board, Springer, 2011 -
- Wiley Statistical Analysis and Data Mining, 2008 -
- Editorial Board, Applied Intelligence, 2006 - 2011;
- The Encyclopedia of Data Warehousing and Mining, Idea Group, Inc. 2004 - 2009;
- The Handbook of Data Mining, Lawrence Erlbaum Associates, Inc. Publishers, 2002 - 2004;
- Knowledge and Information Systems, 2003 - 2006;
- Informatica - An International Journal of Computing and Informatics, 1999 - 2011;

INVITED SPECIALIST MEETING

- NSF SCS Diffusion Workshop on “Social Cyber-Security and the spread of Misinformation, Disinformation and Fake News”. May 30 - 31, 2019.
- ARPA-E’s Machine Learning-Enhanced Energy-Product Development, Falls Church, June 21-22, 2018.
- ARL Science Planning & Strategy Meeting (ASPSM), Uncertainty Quantification, Los Angeles, January 30, 2018.

- Microsoft Faculty Summit, Seattle, July 16-18, 2017.
- Microsoft Faculty Summit, Seattle, July 13-15, 2016.
- Adobe’s Data Science Symposium, May 26, 2016. Silicone Valley, CA.
- ARO Workshop on Trustworthy Human-Centric Social Networking, May 12 -13, 2016. Phoenix, AZ.
- IARPA Societally Impactful Rare Events (SIRE) Technical Workshop, April 4-5, 2016. Falls Church, Virginia.
- Dark Web Workshop, March 22-24, 2016. Naval Postgraduate School, Monterey, California.
- Adobe’s Data Science Symposium, May 28, 2015. Silicone Valley, CA.
- ARO’s Computing Sciences Strategy Planning Workshop, Oct 14-15, 2014. Adelphi Laboratory Center.
- AAAI2014 Spring Symposium on Social Hacking and Cognitive Security on the Internet and New Media, March 24-26, 2014. Stanford University.
- NSF/ACM Workshop on Social Computing, Arlington, October 3-5, 2013. Arlington, VA.
- Symposium on Web Data Science and Engineering - A New Inter-discipline, the Xiangshan Science Conference Series, Beijing, May 23, 2012.
- DARPA Workshop on Big Data and Health, March 23, 2012, Arlington, VA.
- NSF Discovery Informatics Workshop: Science Challenges for Intelligent Systems, February 2 - 3, 2012 <http://diw.isi.edu/diw2012>, Arlington, VA.
- ARO Workshop on Weak Social Ties: Quantification, Metrics and Modeling, by-invitation only workshop, December 1-2, 2011, Duke University.
- ARO Spatio-Temporal Constraints on Social Networks, December 13-14, 2010, UC Santa Barbara.
- National Research Council Workshop on New Research Directions for National Geospatial-Intelligence Agency (NGA) May 17-19, 2010, Washington, D.C.
- Google Faculty Summit, July 24-25, 2008.

STEERING COMMITTEE

International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction, 2009 - 2015, Co-Chair; 2009 - present, Member.

Pacific-Asia Conference Series on Knowledge Discovery and Data Mining, 1998 - present, Member.

AWARD COMMITTEE

SDM/IBM 2019 EARLY CAREER DATA MINING RESEARCHER AWARD

SIGDD 2017 Doctoral Dissertation Awards

SBP 2015, Best Papers and Best Student Papers Award Committee, Washington D.C.
March 31 - April 3, 2015.

SIGKDD 2014, Best Dissertation Award Committee, Chair. New York, August, 2014.

Pacific-Asia Conference Series on Knowledge Discovery and Data Mining (PAKDD 2014),
Most Influential Paper Award Committee, Chair. Tainan, May 2014.

CONFERENCE OR PROGRAM COMMITTEE CO-CHAIR, AND OTHERS

- SDM2019 Workshop on “FEND: Data Mining for Fake News in Social Media: Propagation, Detection and Mitigation”, Co-Chair
- IEEE Big Data 2018, Conference Co-Chair, Seattle, WA.
- SIGKDD Workshop on Big Scholarly Data, Co-Chair, 2018 (London, UK)
- WWW Workshops on Big Scholar Data, Co-Chair, 2014 (Seoul, Korea), 2015 (Florence, Italy), 2016 (Montreal, Canada), 2017 (Perth, Australia)
- IJCAI 2016, Area Chair of Machine Learning, New York, NY.
- ICDM15 Workshop Co-Chair BEAMS2015: Behavior Analysis, Modeling, and Steering, November 14, 2015, Atlantic City, NJ.
- ASONAM 2015, General Co-Chair, Paris, France. August 25 - 28, 2015.
- IJCAI 2015, Area Chair of AI and Web, Buenos Aires, Argentina. July 25 - 31, 2015.
- AAAI2015 Spring Symposium (SS-15-05), Co-Chair, Sociotechnical Behavior Mining: From Data to Decision, Palo Alto, CA. March 23, 2015.
- ICDM 2014, Area Chair, Shenzhen, China. December 14 - 17, 2014.
- CIKM 2014, PC Track Chair on Web and Social Data Management, Shanghai, China. November 3 - 7, 2014.
- First WWW2014 Workshop on Big Scholarly Data: Towards the Web of Scholars, Seoul, Korea, April 8, 2014.
- IEEE ICCS 2014 Symposium on Social Networks and Big Data, Co-Chair, Shanghai, China, October 13-15, 2014.
- The 14th International Conference on Web-Age Information Management (WAIM 2013), Beidaihe, China, June 14-16, 2013.
- ARO Workshop on Human-Centric Computing with Collective Intelligence, co-organizer, October 30-31, 2012
- SIAM International Conference on Data Mining (SDM'11 and SDM'12), Conference co-chair, 2011 and 2012.

- International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction, Sponsorship Co-Chair, 2011, 2012.
- IEEE/ACM International Conference on Cyber, Physical, and Social Computing (CPSCoM'11), Panel Chair, 2011.
- IEEE/ACM International Conference on Cyber, Physical, and Social Computing (CPSCoM'10), Conference co-chair, 2010.
- IEEE/ACM CPSC'10, Panel Chair on Research Directions and Opportunities in Cyber, Physical, and Social Computing, 2010.
- International Workshop on Feature Selection for Data Mining (FSDM), Co-organizer, at PAKDD 2010.
- SIAM International Conference on Data Mining (SDM'09), PC co-chair, 2009.
- The Second International Workshop on Social Computing, Behavioral Modeling, and Prediction (SBP), Co-organizer, 2009
- International Workshop on Feature Selection for Data Mining (FSDM), Co-organizer, at ECML/PKDD 2008
- The First International Workshop on Social Computing, Behavioral Modeling, and Prediction (SBP), Co-organizer, 2008
- The 12th Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD), Conference Co-Chair, 2008
- SIAM International Conference on Data Mining (SDM'08) 2008, Workshop Chair
- The 11th Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD), PC Area Chair, 2007
- SIAM International Conference on Data Mining (SDM) 2007, Tutorial Chair
- The Second Feature Selection for Data Mining Workshop (FSDM) 2006, Co-Chair
- Pacific Rim International Conference on AI (PRICAI), PC Vice Chair, 2006
- The Tenth Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD) 2006, Workshop Co-Chair
- PAKDD Distinguished Contribution Awards Committee member (2005, 2006)
- The Seventh Web-Age Information Management Conference (WAIM) 2006, Publicity Co-Chair
- The Ninth Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD) 2005, PC Co-Chair
- The Symposium on Applications and Internet (SAINT) 2005, Proceedings Co-Chair
- The First Feature Selection for Data Mining Workshop (FSDM) 2005, Co-Chair
- Pacific Rim International Conference on AI (PRICAI) 2000, Workshop Chair

- The Sixth Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD) 2002, Workshop Chair
- IJCAI 2001 Workshop on Wrapper Methods, Workshop Co-Chair
- The Fourth Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD) 2000, PC Co-Chair
- The First Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD) 1997, Publicity Chair
- The Sixth Australian Joint Conference on AI 1993, Organizing Co-Chair

GUEST EDITOR/CO-EDITOR

- IEEE Intelligent Systems, Special Issue on Online Behavioral Analysis and Modeling, co-editor with Cui Peng, Charu Agarwal, and Fei Wang, 2016
- Uncovering Deception in Social Media, co-editor with Jiawei Han and Hiroshi Motoda, Springer Journal of Social Network Analysis and Mining, 2014
- AI, Social Network and Cultural Modeling, co-editor with Data Nau, ACM Transactions on Intelligent Systems and Technology, (Part I) 2010, (Part II) 2012
- Social Computing in the Blogosphere, co-editor with Philip Yu, Nitin Agarwal, and Torsen Suel, IEEE Internet Computing, 2010
- Social Computing, Behavioral Modeling, and Prediction, co-editor with John Salerno, Michael Young, Rakesh Agrawal, and Philip Yu, ACM Transactions on Knowledge Discovery from Data, 2008
- Mining Streaming Data, co-editor with Jianping Zhang and Paul Wong, Journal of Information Sciences, Elsevier, 2006
- Evolving Feature Selection, IEEE Intelligent Systems, Trends and Controversies, November/December, 2005
- Instance Selection, Journal of Data Mining and Knowledge Discovery, co-editor with Hiroshi Motoda, 2001
- Feature Transformation and Subset Selection, co-editor with Hiroshi Motoda, IEEE Intelligent Systems, March/April, 1998.

CONFERENCE TUTORIALS

- ACM WSDM2019 Tutorial on Fake News: Fundamental Theories, Detection Strategies and Challenges, February 2019, Melbourne, Australia.
- IEEE ICDM2017 Tutorial on Mining Misinformation in Social Media: Understanding Its Rampant Spread, Harm, and Intervention, November 21, 2017, New Orleans, Louisiana.
- SIGKDD2017 Tutorial on Recent Advances in Feature Selection: A Data Perspective, August 13, 2017, Halifax, Nova Scotia, Canada.

- AAAI2017 Tutorial on *Social Data Bias in Machine Learning: Impact, Evaluation, and Correction*, February 4, 2017, San Francisco, CA.
- SBP-BRiMS2016 Tutorial on *Misinformation in Social Media: Diffusion, Detection and Intervention*, June 28, 2016, with Liang Wu and Fred Morstatter. Washington D.C.
- ASONAM2015 Tutorial on *Bot Detection in Social Media: Networks, Behavior, and Evaluation*, August 25, 2015, with Fred Morstatter and Kathleen Carley. Paris, France.
- International World Wide Web Conference, May 18, 2015. *LIKE and Recommendation in Social Media*, with Dongwon Lee. Florence, Italy.
- ACM RecSys October 6, 2014. *Personalized Location Recommendation on Location-based Social Networks*, with Huiji Gao and Jiliang Tang. Silicon Valley, CA.
- ACM SIGKDD August 24, 2014. *Recommendation in Social Media - Recent Advances and New Frontiers*, with Jiliang Tang and Jie Tang. New York, NY.
- Pacific-Asia Conference on Knowledge Discovery and Data Mining, May 14, 2014. *Mining Spammers in Social Media: Techniques and Applications*, with Xia Ben Hu. Tainan, Taiwan.
- International World Wide Web Conference, April 8, 2014. *Trust in Social Computing*, with Jiliang Tang. Seoul, Korea.
- IEEE International Conference on Data Mining, December 10, 2013. *Social Media Mining: Fundamental Issues and Challenges*, with Ali Abbasi and Reza Zafarani. Dallas, TX.
- INFORMS Annual Meeting, October 2012, *Mining Social Media - A Brief Introduction*, with Pritam Gundechar. Phoenix, AZ.
- The First IEEE International Conference on Social Computing (SocialCom'09), *Community Detection and Behavior Prediction for Social Computing*, with Lei Tang and Nitin Agarwal.
- The 14th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD'08), *Blogosphere: Research Issues, Applications, and Tools*, with Nitin Agarwal.
- SIAM Data Mining (SDM) 2007, *Dimensionality Reduction for Data Mining - Techniques, Applications, and Trends*, with Lei Yu and Jieping Ye.
- National Conference on AI (AAAI) 2005, *Downsizing High-Dimensional Data for High Performance*, with Robert Stine.
- Pacific Rim International Conference on AI (PRICAI) 1998, *Data Mining: Process and Techniques*, with Bing Liu.

PROGRAM COMMITTEE MEMBER (RECENT AND SELECTED)

- ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD) 2000, 2006, 2007, 2008 (Senior PC member), 2009, 2010, 2011, 2012 - 2015, 2016 (Senior PC)
- ACM International Conference on Web Search and Data Mining (WSDM), 2010, 2013, 2014, 2015 (Senior PC), 2016 (PC, Best Paper Awards), 2017 (Senior PC)
- AAAI International Conference on Weblog and Social Media (ICWSM), 2014 - 2016

- National Conference on AI (AAAI) 2005 (Senior Member), 2007, 2008, 2016
- International Joint Conference on AI (IJCAI), 2011 (IEAI Track), 2013 (Senior PC), 2015 (Area Chair), 2016 (Area Chair)
- ACM Conference Recommender Systems (RecSys), 2015, 2016
- ACM Conference on Online Network Science (CONS), 2015
- International Conference on Advances in Social Network Analysis and Mining (ASONAM), 2011, 2012 (tutorial co-chair), 2013, 2015 (conf co-chair)
- SIAM International Conference on Data Mining (SDM) 2005, 2006, 2007, 2008, 2009 (Program Co-Chair), 2010 (Senior PC), 2011 (Conf Co-Chair), 2012 (Conf Co-Chair), 2013, 2014 (Senior PC), 2015 (Senior PC)
- Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD) 1997 - 2009, 2011, 2012, 2013 (Senior PC), 2014 (Senior PC)
- IEEE International Conference on Data Mining (ICDM) 2001 - 2007, 2009, 2010, 2011, 2013, 2014 (area chair)
- International World Wide Web Conference (WWW), 2008, 2010, 2012, 2013 (PC and Demo), 2014 (PC and Demo), 2015, 2016 (Web Mining)
- ACM Conference on Information and Knowledge Management (CIKM), 2006 - 2011, 2012 (Senior PC), 2013 (Senior PC), 2015 (Area Chair), 2016 (Senior PC)
- IEEE International Conference on Big Data, 2013
- International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP), 2010 - 2016, (Best Paper Awards, 2015)
- International Workshop on Social Computing, Behavioral Modeling, and Prediction (SBP), 2008, 2009
- European Conference on Machine Learning/Practical Knowledge Discovery and Data mining (ECML/PKDD), 2008, 2010, 2011
- ACM Workshop on Social Network Mining and Analysis with KDD (SNAKDD), 2010.
- IEEE International Conference on Social Computing (SocialCom), 2009, 2010
- International Conference on Pattern Recognition (ICPR), 2008, 2010
- Asian Conference on Machine Learning (ACML), 2009 (Area Chair), 2010 (Senior PC)
- Pacific Knowledge Acquisition Workshop (PKAW), 1998, 2002, 2004, 2010
- IEEE International Conference on Data Engineering Demo PC, 2009
- AAAI-09 Spring Symposium on Technosocial Predictive Analytics, 2009.
- IEEE International Conference on Granular Computing (GrC), 2006, 2008, 2009, 2010
- European Conference on Machine Learning/Practical Knowledge Discovery and Data Mining (ECML/PKDD), 2008, Antwerp, Belgium.

- ECML PKDD 2008 Workshop on New Challenges for Feature Selection in Data Mining and Knowledge Discovery (FSDM08), 2008, Antwerp, Belgium.
- International Conference on Machine Learning (ICML) 2000, 2005, 2006, 2008
- IEEE Symposium on Computer Intelligence and Data Mining (CIDM) 2007
- IEEE International Conference on Tools with Artificial Intelligence (ICTAI), 2006
- European Conference on Machine Learning (ECML) 2005
- International Conference, EC-Web, 2001 - 2007
- Asia Pacific Web Conference (APWeb), 2003 - 2005
- WebKDD, 2005, 2006, 2007, 2008
- Web-Age Information Management Conference (WAIM) 2001 - 2004, 2008
- ICML 2002 Workshop on Data Mining Lessons Learned
- SIAM 2002 Workshop on Web Analytics
- ICDM Workshop on Active Mining, 2002 - 2004

REVIEWING FOR JOURNALS

- Nature Scientific Reports
- Data Mining and Knowledge Discovery
- Journal of AI Research
- Journal Machine Learning Research
- Big Data & Society
- Machine Learning
- ACM Transactions on Knowledge Discovery from Data
- ACM Transactions on Intelligent Systems and Technology
- ACM Transactions on Information Systems
- ACM Transactions on Multimedia, Computing, Communications and Applications
- ACM Transaction on Web
- Computers in Human Behavior, Elsevier
- Journal of Computer and System Sciences
- Bioinformatics
- Journal of Intelligent Material Systems and Structures
- IEEE IEEE/ACM Trans on Computational Biology and Bioinformatics

- IEEE Trans. on Pattern Recognition and Machine Intelligence
- IEEE Trans. on Knowledge and Data Engineering
- IEEE Trans. on Cybernetics
- IEEE Trans. on Systems, Man, and Cybernetics
- IEEE Trans. on Neural Networks
- IEEE Trans. on Evolutionary Computing
- IEEE Trans. on Signal Processing
- Pattern Recognition
- Pattern Recognition Letters
- Knowledge and Information Systems
- Neurocomputing
- Applied Intelligence
- Multimedia Systems Journal
- ASME Trans. Journal of Computing and Information Science in Engineering
- Computers and Mathematics with Applications
- Decision Support Systems
- New Generation Computing
- Information Processing Letters,
- Journal of Decision Support Systems,
- International Journal of Computer Science and Applications
- Journal of Intelligent Information Systems
- International Journal of Adaptive Control and Signal Processing
- Informatica
- Data and Knowledge Engineering (DKE)

REVIEWING FOR BOOKS

- SAS
- SAGE
- Chapman & Hall/CRC
- John Wiley & Sons, Inc.

- Addison-Wesley
- Springer
- IEEE Press

GRANT PROPOSAL REVIEW/PANEL

- National Science Foundation, 2002-2004, 2007-2012, 2014, 2015, 2016, 2017, 2018
- AFOSR, 2009, 2011, 2012, 2015
- ARO, 2009, 2011, 2012, 2018
- NASA, 2004
- Swiss National Science Foundation, 2016
- National Commission for Scientific and Technological Research, Chile, 2013
- Hong Kong Research Grants Council, 2001, 2002, 2005-2011
- Science Foundation Ireland, 2001

UNIVERSITY SERVICES

- ASU University Working Group on Research Computing, Fall 2015 -
- ASU CIDSE Administration and Planning Committee, Spring 2013 - Spring 2014, Fall 2016 - Spring 2018
- ASU FSE/CIDSE Director Search Committee, Fall 2015 - Spring 2016, Fall 2016 - Spring 2017, Fall 2017 - January 2018
- ASU Fulton Schools of Engineering, Faculty Assembly Secretary Search Committee, Fall 2015
- ASU Fulton Schools of Engineering, Executive Committee, Fall 2011 - Spring 2013, Fall 2013 - Spring 2015, Fall 2017 - Spring 2018.
- ASU CIDSE Personnel Committee, Chair, Fall 2009; Member Spring 2010; Member Spring 2014 - Spring 2016; Chair, Fall 2015; Fall 2018 -
- ASU Fulton Schools of Engineering, Reputation Sub-Committee, Spring 2014 - Fall 2015
- ASU CIDSE Recruitment Committee - Social Computing, Fall 2012 - Spring 2013
- ASU Fulton Schools of Engineering, Committee on the Quality of Instruction, Spring 2012 - Spring 2013
- ASU Fulton Schools of Engineering, Curriculum Committee, Fall 2010 - Spring 2013
- ASU CIDSE Graduate Program Committee, Fall 2010 - Spring 2013
- ASU CIDSE Ad-hoc Committee for CSE Operating Procedures, Fall 2010 - Spring 2011

- ASU Fulton School of Engineering, Recruitment Committee, Fall 2009 - Spring 2010
- ASU University Senate 2007 - 2009
- ASU CSE Personnel Committee, Fall 2001, Spring 2002, 2008 - Spring 2009
- ASU CSE Graduate Admission Committee Spring 2000 - Spring 2001, Fall 2002, Spring 2003 - Spring 2005 (Chair), Spring 2008 -
- ASU CSE Executive Committee 2003 - 2004, 2005 - 2007, Spring 2008.
- ASU CSE TA Selection Committee, Spring, 2002,
- ASU CSE Faculty Sabbatical Committee, Fall 2000 - Spring 2003,
- ASU Fulton School Senate, Fall 2003 - Fall 2006

The following duties were performed at National University of Singapore (1994 - 1999)

Curriculum Committee	Member, Advisor for the field of Humans and Computers.
Student Exchange Program Coordinator	establishing exchange programs with leading overseas universities, sending and receiving exchange students.
Student Industrial Attachment Program	liason with industrial organizations for student final year on-site projects.
Work Improvement Teams	constantly improving the working environment.
Quotation/Tender Opening Committee	checking all school equipment purchasing quotations.
Social and Recreation Committee	organizing activities to promote better relationship among staff and students.

PROFESSIONAL ASSOCIATIONS

- American Association of AI (AAAI), Fellow
- American Association for the Advancement of Science (AAAS), Fellow
- Association for Computing Machinery (ACM), Fellow
- Institute of Electrical and Electronics Engineers (IEEE), Fellow
- American Society for Engineering Education (ASEE)
- Society of Industrial and Applied Mathematics (SIAM)