

## Curriculum Vitae

**Latifur R. Khan**

Computer Science Department  
The University of Texas at Dallas  
MS EC-31, P.O.Box 830688  
Richardson, Texas 75083, USA  
lkhan@utdallas.edu

### EDUCATION

- Ph.D. in Computer Science, *University of Southern California (USC)*, USA August 2000  
Dissertation: Ontology-based Information Selection.
- M.S. in Computer Science, *University of Southern California (USC)*, USA December 1996.
- B.S. in Computer Science and Engineering, *Bangladesh University of Engineering and Technology*, November 1993 (First Class with Honors—Second position).

### WORK EXPERIENCE

- Associate Professor: Computer Science Dept., The University of Texas at Dallas (UTD), since September 2006.
- Assistant Professor: Computer Science Dept., The University of Texas at Dallas, September 2000 – August 2006.
- Graduate Research Assistant: Integrated Media Systems Center, USC, September, 1997 – August, 2000, and Information Sciences Institute (ISI), USC, September 1995 – August 1997.
- Lecturer: Computer Science & Engineering, Bangladesh University of Engineering and Technology, December 1993 – August 1995.

### SERVICE TO THE PROFESSION:

- **Associate Editor** of *IEEE Transactions on Knowledge & Data Engineering (TKDE)*, IEEE Computer Society since June 2011.
- **Associate Editor** of *International Journal of Data Mining, Modeling and Management (IJDMMM)*, Inderscience Publishers, Switzerland, since 2008.
- **Associate Editor** of *International Journal of Security Informatics*, Springer ISSN: 2190-8532, Journal no. 13388, since Spring 2011.
- **Associate Editor** of *Journal of Advanced Computing and Applications*, USM, Malaysia, since July 2010.
- **Associate Editor** of *Computer Standards and Interface Journal* by Elsevier Publishing, 2006 – 2009.
- Guest Editor of *International Journal of Knowledge and Information Systems (KAIS)*, Vol. 10, No. 2, Springer (2006).

- Guest Editor of *International Journal of Multimedia Tools and Applications*, Springer.
- Member of *IEEE Kanai Award Committee*, 2005 and 2006.

### SERVICE TO UTD:

- Committee for graduate curriculum development in computer science.
- Member of the Computer Science graduate admission committee from Fall 2001 to Summer 2004.
- Voluntary TA assignment work for the CS department.
- University Committee: Member of Information Resources Committee from Fall 2008 to Spring 2009.
- Host for a CS colloquium speaker, Dr. Chris Jermaine, Rice University, Houston, TX.

### KEYNOTE ADDRESSES

- Adaptive Stream Mining: *SUTC 2010: 2010 IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing*, June 7 - 9, 2010, Newport Beach, California, USA.
- Geospatial Schema Matching With High-Quality Cluster Assurance and Location Mining from Social Network, *Third International Workshop on Semantic Aspects in Data Mining (SADM'10) in conjunction with the 2010 IEEE International Conference on Data Mining (ICDM 2010)*, Sydney, Australia, Dec. 2010.
- Matching Words and Pictures: Problems, Application and Progress, *9th International Conference on Computer and Information Technology (ICCIT)*, 2006.
- Co-author of over 30 keynote address presentations.

### AWARDS

- UTD Inventor Award, April 2010
- UTD Author Recognition Award, October 2009
- **Best Paper Award:** Ahmad Adel Abu-Shareha, Mandava Rajeswari, **Latifur Khan**, Dhanesh Ramachandram, “Multimodal Concept Fusion using Semantic Closeness for Image Concept Disambiguation”, *Proceedings of the 2010 International Workshop on Advanced Future Multimedia Services (AFMS 2010)*, Gwangju, Korea, 9-11 December 2010 (21 papers were presented in the workshop and this paper received the best paper award—more information: <http://www.ftrai.org/afms2010/wcc2010-final.pdf>).
- **Best Paper Award:** Yohan Jin, Kibum Jin, **Latifur Khan**, B. Prabhakaran, “The Randomized Approximating Graph Algorithm for Image Annotation Refinement Problem”, *Workshop on Semantic Learning Applications in Multimedia in conjunction with 2008 IEEE Conference on Computer Vision and Pattern Recognition*, Alaska, USA, July 2008. (In the workshop, 10 papers were presented by researchers from UCSD, UCLA, RPI, UIUC, University of Toronto, University of Washington, University of Wisconsin, UTD and UTD paper received the best paper award—more information: [http://www.ecse.rpi.edu/slam08/SLAM08\\_scheduleV2.pdf](http://www.ecse.rpi.edu/slam08/SLAM08_scheduleV2.pdf)).
- Chancellor Award from the **President** of Bangladesh.

### **CHAIR/CO-CHAIR OF CONFERENCES:**

- Program Co-Chair of *HaCDAIS 2011: 2nd International Workshop on Handling Concept Drift in Adaptive Information Systems*, in conjunction with 11th IEEE International Conference on Data Mining (IEEE ICDM 2011), Vancouver, Canada, December, 2011.
- Workshop Selection co-chair of *IEEE International Conference on Intelligence and Security Informatics (ISI 2011)*, July 10-12, 2011, Beijing, China
- Program Co-Chair of *International Workshop on Cloud Privacy, Security, Risk & Trust (CPSRT 2010)*, in conjunction with the 2nd IEEE International Conference on Cloud Computing Technology and Science (CloudCom 2010), Indiana, Nov. – Dec. 2010.
- Program Co-Chair of *IEEE International Conference on Intelligence and Security Informatics (ISI-2009)*, June 8-11, 2009, Dallas, Texas, U.S.A.
- Program Co-Chair of *ACM 6th International Workshop on Multimedia Data Mining (MDM/KDD2005)*, August 2005, Chicago, IL, USA.
- Program Chair of *ACM 5th International Workshop on Multimedia Data Mining (MDM/KDD2004)*, August 2004, Seattle, Washington.
- Program Co-Chair in *First International Workshop on Geographic and Biological Data Management (GBDM04)* in conjunction with COMPSAC 2004, September 2004, Hong Kong.
- Poster co-chair at *IEEE International Conference on Intelligence and Security Informatics (ISI-2010)*, May 2010, Vancouver, Canada.

### **PUBLICITY CO-CHAIR:**

- *Fifth IEEE International Conference on Semantic Computing*, September 18-21, 2011, Stanford University, Palo Alto, CA, USA, <http://www.ieee-icsc.org/>.
- *4th IEEE 2011 International Conference on Cloud Computing (CLOUD 2011)*, Washington DC, July, 2011.

### **SPONSORSHIP CHAIR:**

- *12th International Symposium on Spatial and Temporal Databases*, Minneapolis, MN, USA, August, 2011.

### **PROGRAM COMMITTEE MEMBER OF:**

- *17<sup>th</sup> ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, August 2011, San Diego, CA, USA.
- ICDM '11: *The 11th IEEE International Conference on Data Mining*, December, 2011, Vancouver, Canada.
- *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD)*, Athens, Greece, September, 2011.
- *19th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS 2011)*, November, 2011, Chicago, Illinois.
- *20th ACM Conference on Information and Knowledge Management (CIKM)*, October 2011, Glasgow, UK
- *23rd IEEE International Conference on Tools with Artificial Intelligence (ICTAI 2011)*, Nov. 7-9, 2011, Boca Raton, Florida, USA
- *NASA Conference on Intelligent Data Understanding (CIDU 2011)*, Mountain View, California.
- Poster Paper, *20th International World Wide Web Conference*, April 2011, Hyderabad, India

- ICDM '10: The *10th IEEE International Conference on Data Mining*, December 13-17, 2010, Sydney, Australia.
- *18th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL GIS 2010)*, November 2 - 5, 2010, San Jose, California.
- *16<sup>th</sup> ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, July 2010, Washington DC.
- The *14th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, Hyderabad, India, June 2010.
- *NASA Conference on Intelligent Data Understanding (CIDU 2010)*, Mountain View, California.
- ICDM '09: *2009 IEEE International Conference on Data Mining (ICDM 2009)*, December 2009, Miami, Florida, USA.
- *15<sup>th</sup> ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, July 2009, Paris, France.
- *SDM '09: 2009 SIAM International Conference on Data Mining*, April 30 - May 2, Nevada, USA.
- *13th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-09)*, Bangkok, Thailand, April 27 - 30, 2009.
- *International Conference on Computers and Information Technology*, December 2009, Bangladesh.
- *SDM '08: 2008 SIAM International Conference on Data Mining*, Atlanta, Georgia, USA, April 24 - 26, 2008.
- *24th International Conference on Data Engineering (ICDE)*, April 7 - 12, 2008, Cancún, México.
- *Twelfth ACM Symposium on Access Control Models and Technologies (SACMAT)*, Nice, France, July 2008.
- *International Conference on Computers and Information Technology*, December 2008, Bangladesh.
- *2007 IEEE International Conference on Data Mining (ICDM)*, Omaha, NE, December 2007.
- *12<sup>th</sup> ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, August 2006, Philadelphia, USA.
- *IEEE International Conference on Data Mining (ICDM)*, ICDM 2006 December 18 - 22, 2006, Hong Kong.
- *17th European Conference on Machine Learning and 10th European Conference on Principles and Practice of Knowledge Discovery in Databases*, September 2006, Berlin, Germany
- *International Conference on Computers and Information Technology*, December 2006, Dhaka, Bangladesh.
- *11<sup>th</sup> ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, August 2005, Chicago, Illinois.
- *Workshop on Clustering High Dimensional Data and its Applications*, in Conjunction with the Fifth SIAM International Conference on Data Mining (SDM 2005), April 2005, Newport Beach, California.
- *International Conference on Computers and Information Technology*, December 2004, Dhaka, Bangladesh.
- *16th IEEE International Conference on Tools with Artificial Intelligence (ICTAI)*, November, 2004, Boca Raton, Florida.
- *12th International Conference on Cooperative Information Systems (CoopIS 2004)*, October 2004, Larnaca, Cyprus.

- *International Conference on Database and Expert Systems Applications DEXA 2004*, September, 2004, Zaragoza, Spain.
- *15th IEEE International Conference on Tools with Artificial Intelligence (ICTAI)*, November, 2003, Sacramento, California.
- *12th International Conference on Computer Communications and Networks*, October, 2003, Dallas, Texas.
- *International Conference on Database and Expert Systems Applications DEXA 2003*, September, 2003, Prague, Czech Republic.
- *International Workshop on Web Semantics - WebS 2003, in conjunction with International Conference on Database and Expert Systems Applications DEXA 2003*, September, 2003, Prague, Czech Republic.
- *ACM 4th International Workshop on Multimedia Data Mining (MDM/KDD2003)*, August 2003, Washington DC.
- *Fifteenth International Conference on Software Engineering and Knowledge Engineering*, July, 2003, San Francisco Bay.
- *2003 IEEE International Conference on Communications, Global Services and Infrastructure for Next Generation Networking Symposium*, May 2003, Alaska.
- *2003 IEEE International Conference on Multimedia & Expo (ICME)*, July 2003, Baltimore, Maryland.
- *International Conference on Computers and Information Technology*, December 2002, Dhaka, Bangladesh.
- *ACM Third International Workshop on Multimedia Data Mining (MDM/KDD2002)*, July 2002, Alberta, Canada.
- *International Conference on Computers and Information Technology*, December 2001, Dhaka, Bangladesh.
- *ACM Second International Workshop on Multimedia Data Mining (MDM/KDD2001)*, August 2001, San Francisco, USA.
- *International Workshop on Parallel and Distributed Multimedia Processing & Retrieval*, June 2001, Las Vegas, USA.
- Program Committee Member of *ACM 2001 Symposium on Applied Computing*, March, 2001, Las Vegas, USA.

#### **TUTORIAL:**

- Half Day Tutorial, “Data Stream Mining Challenges and Techniques”, *The 15th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, Shenzhen, China, May 2011.
- Half Day Tutorial, “Data Mining for Security Applications,” *IEEE International Conference on Intelligence and Security Informatics (ISI-2009)*, June 8-11, 2009, Dallas, Texas, U.S.A.
- Half Day Tutorial, “Matching Words and Pictures: Problems, and Applications in the Web”, *2008 IEEE/WIC/ACM International Conference on Web Intelligence (WI-08)*, December 2008, Sydney, Australia.
- Half Day Tutorial, “Matching Words and Pictures - Problems, Applications, and Progress,” *14<sup>th</sup> ACM International World Wide Web Conference, WWW2005*, May 2005, Chiba, Japan.
- Half Day Tutorial, “Translating Images to Keywords: Problems, Applications, and Progress,” *MIS 2005 International Workshop on Multimedia Information Systems*, September 2005, Sorrento, Italy.

- Half Day Tutorial, “Matching Words and Pictures: Problems, Applications and Progress,” *ACM Fourteenth Conference on Information and Knowledge Management (CIKM)*, November 2005, Bremen, Germany.
- Half Day Tutorial, “Matching Words and Pictures - Problems, Applications, and Progress,” *12th International Conference on Database Systems for Advanced Applications*, April 2007, Bangkok, Thailand.

#### **SESSION CHAIR:**

- *The 15th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, Shenzhen, China, May 2011.
- *2010 IEEE International Conference on Data Mining (ICDM 2010)*, Dec. 2010, Sydney, Australia.
- *22th International Conference on Tools with Artificial Intelligence (ICTAI 2010)*, October 27-29, 2010, Arras, France.
- *European Conference on Machine Learning and Knowledge Discovery in Databases, ECML PKDD 2010*, September 20-24, 2010, Barcelona, Spain.
- *14th Pacific-Asia Conference on Knowledge Discovery and Data Mining*, 21-24 June, 2010, Hyderabad, India.
- *IEEE International Conference on Intelligence and Security Informatics (ISI-2010)*, May 2010, Vancouver, Canada.
- *15<sup>th</sup> ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, July 2009, Paris, France.
- *2008 IEEE International Conference on Data Mining (ICDM 2008)*, Pisa, Italy, December, 2008.
- *ACM 6th International Workshop on Multimedia Data Mining (MDM/KDD2005)*, August 2005, Chicago, Illinois.
- *Workshop on Multimedia and Web Design in IEEE Sixth International Symposium on Multimedia Software Engineering*, December 2004, Miami, Florida.
- *2nd ACM International Workshop on Multimedia Databases in Conjunction ACM CIKM 2004*, November 2004, Arlington, Virginia.
- *16th IEEE International Conference on Tools with Artificial Intelligence (ICTAI)*, November 2004, Boca Raton, Florida.
- Bioinfo-9 Session (Clustering Algorithms), *3<sup>rd</sup> IEEE Symposium on BioInformatics and BioEngineering*, March 2003, Bethesda, Maryland.
- *3<sup>rd</sup> Session (Image Retrieval), 8<sup>th</sup> International Workshop on Multimedia Information Systems*, October 2002, Tempe, Arizona.
- *International Conference on Internet Computing 2002*, June 2002, Las Vegas, Nevada.
- *International Conference on Computers and Information Technology*, December 2001, Dhaka, Bangladesh.
- *Cyber Security, SDPS 2010, Transformative Systems Conference, A Transdisciplinary Synthesis of Business, Science, and Engineering*, June 6 - 11, 2010, Crowne Plaza Hotel, Addison, Texas.
- *Managing Ontologies for Complex Systems & Networks, SDPS 2010, Transformative Systems Conference, A Transdisciplinary Synthesis of Business, Science, and Engineering*, June 6 - 11, 2010, Crowne Plaza Hotel, Addison, Texas.

## **PANELIST:**

- *National Science Foundation (NSF)* Panelist at Information & Intelligent Systems (IIS) Division in 2003, 2004, 2005, 2008, 2010 and 2011.
- *IEEE International Conference on Intelligence and Security Informatics (ISI-2009)*, June 8-11, 2009, Dallas, Texas, U.S.A.

## **INVITED TALKS:**

- Stream Mining and its Applications, *Information Sciences Institute (ISI), University of Southern California (USC)*, California, January 2011.
- Ontology Alignment, *Department of Computer Science, University of California Los Angeles (UCLA)*, California, January 2011.
- Stream Mining and its Applications, *King Saud University (KSU)*, Riyadh, Saudi Arabia, December 2010.
- Data Stream Mining: Challenges and Techniques, *22th International Conference on Tools with Artificial Intelligence (ICTAI 2010)*, October 27-29, 2010, Arras, France.
- Stream Mining and Its Applications, *Institute for Infocomm Research, Singapore and University of Sains Malaysia (USM)*, Penang, Malaysia, August 2010.
- Stream Mining and Its applications in Security, *IEEE International Conference on Intelligence and Security Informatics, ISI 2010*, Vancouver, BC, Canada, May 23 - 26, 2010.
- Novel Class Detection for Stream Mining Data, *Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh, and United International University (UIU), Bangladesh*, July 2010.
- Stream Mining and Location Extraction, *IEEE Computer Society, Dallas Chapter*, March 2010.
- SPARQL Query Optimization Using Semantic Web, *Wright State University, Ohio*, November, 2009.
- Stream Mining and Text Mining at *Boeing, Seattle*, November 2009.
- GeoSpatial Data Management, *Ahsanullah University of Science and Technology, Dhaka, Bangladesh*, July, 2009.
- Stream Mining, *Bangladesh University of Engineering and Technology (BUET)*, April 2009.
- Multimedia Mining, *University of Lille, France*, December, 2008.
- Malware Detection, *Nanyang Technological University, Singapore*, February, 2008.
- GIS Data Integration at *Raytheon, TX*, 2008.
- Intrusion Detection at *Rockwell Collins, TX*, 2008.
- Text Mining at *NASA, California*, 2007.

## **ANNUAL PROGRAM REVIEW MEETING:**

- Aviation Safety Program Annual Technical Meeting, May 10-12, 2011, St. Louis, Missouri.
- Text Mining, at *NASA Meeting*, Mountain View, California 2010 & 2009 and Washington DC 2008.
- Geo-Spatial Data Integration at *MURI Meeting, Stanford University, California*, October 2009.
- Semantic Web Service for Geo Spatial Data at *NGA meeting, University of Minnesota*, August 2010 & September, 2007.
- Intrusion Detection at *AFOSR Meeting on project Information Operation via Infospheres*, Washington DC 2008 and Syracuse, New York, 2006 and 2007.

## REVIEWER:

- Invited Reviewer of Book, *Database Systems* by Elmasri and Navathe, Addison, Wesley.
- Invited Reviewer of *Encyclopedia of Computer Science and Engineering*, John Wiley & Sons.
- Invited Reviewer of *IEEE Transactions on Neural Network*, TNN.
- Invited Reviewer of *Journal of Machine Learning Research*.
- Invited Reviewer of *IEEE Intelligent Systems*.
- Invited Reviewer of ACM/Springer *Multimedia Systems Journal*.
- Invited Reviewer of *IEEE Transactions on Knowledge and Data Engineering*, TKDE.
- Invited Reviewer of *IBM Systems Journal*.
- Invited Reviewer of *ACM Transactions on Internet Technology*.
- Invited Reviewer of *VLDB Journal*, ACM/Springer Publisher.
- Invited Reviewer of *IEEE Transactions on Dependable and Secure Computing*.
- Invited Reviewer of *IEEE Transactions on Systems, Man and Cybernetics - Part A*.
- External Reviewer of *ACM Transactions in Asian Language and Info Processing*.
- Invited Reviewer of *International Journal of Cooperative Information Systems (IJCIS)*.
- External Reviewer of *International Journal of Knowledge and Information Systems (KAIS)*, Springer-Verlag.
- Invited Reviewer of *Information and Software Technology*, Elsevier Publisher.
- Invited Reviewer of *World Wide Web Journal (WWWJ)*, Kluwer Academic Publishers.
- Invited Reviewer of *International Journal of Computers and Applications*, ACTA Press, Calgary, Canada.
- Invited Reviewer of *Geoinformatica Journal*, Springer.
- External Reviewer of *Research Grant* at City University of Hong Kong, Hong Kong.

## GRANTS:

### As a Principal Investigator

#### Research Grants

- “Scalability Issue for Large CDR Dataset”, Tektronix, \$35,000 (gift). (PI: Latifur Khan)
- “Malicious Behavior Pattern Extrapolation”, Raytheon, April 2011 - June 2012, \$100,000. (PI: Latifur Khan)
- “Event Cube: An Organized Approach for Mining and Understanding Anomalous Aviation Events”, NASA, Jan. 2008 - May 2011, \$360,000. (PI: Latifur Khan, Co-PI: Vincent Ng)
- “Prototype Geospatial Data Integration Framework for Police Blotter Crime Analysis”, Raytheon, July 2007 - December 2007, \$100,000. (PI: Latifur Khan, Co-PI: Bhavani Thuraisingham)
- “Secure Sensor Semantic Web and Information Fusion”, Air Force Office of Scientific Research, 2009 - 2014, \$1.55 million. (PI: Latifur Khan from 2011 - 2014, Co-PI from 2009 – 2011; Bhavani Thuraisingham, PI from 2009 – 2011, Co-PI from 2011 – 2014; Co-PI: Murat Kantarcioglu)
- “Adaptive Malware Detection over Evolving Malwares: Attacks and Defenses”, *US Army*, Selected for funding in collaboration with UTEP. UTD amount \$350K; June 2011 - July 2012. (PI: Latifur Khan, Co-PI: Kevin Hamlen)
- “Spatio-Temporal Pattern Mining for Multi-Jurisdiction Multi-Temporal Activity Datasets”, 2007, *NGA University Research Initiatives (NURI)*, September 2007 – August 2011, \$150,000. (PI: Latifur Khan, Co-PI: Bhavani Thuraisingham)
- “Ontology Matching and Mapping”, *National Science Foundation*, September 2007 - August 2009, \$212,000. (PI: Latifur Khan, Co-PI: Bhavani Thuraisingham)
- “Feature Extraction for Finding Images/Video”, Nokia Research Center, Irving, Texas, June, 2005 to November, 2005, \$30,000 (gift). (PI: Latifur Khan)

#### Education Grants

- “Training Students for Careers in Information Assurance”, National Security Agency, October 2010 – Nov. 2011, \$44,000 ((PI: Latifur Khan, Co-PI: Kamil Sarac)

#### Equipment Grant/Infrastructure Grants

- “Ontology-based Information Selection and Storing XML data into Databases,” *SUN Academic Equipment Grant Program*, August 2002, \$87,265.
- “Development of an Assured Cloud Infrastructure,” *Air Force Office of Scientific Research*, (AFOSR), *Air Force Office of Scientific Research*, submitted under DURIP program, funded

as a *Research Infrastructure and Equipment Grant by AFOSR*, June 15, 2011 - May 14, 2012, \$243,188 (PI: Latifur Khan, Co-PI: Bhavani Thuraisingham, Kevin Hamlen, Murat Kantarcioglu)

## **As a Co-Principal Investigator/Senior Personnel**

### **Research Grants**

- “TC: Small: Collaborative: Protocols for Privacy-Preserving Scalable Record Matching and Ontology Alignment”, National Science Foundation (NSF), Sept 2010 - July 2013, \$259,674. (PI: Murat Kantarcioglu, Co-PI: Latifur Khan, Bhavani Thuraisingham; Latifur Khan contributed equally with the PI and second Co-PI: This is a 3-way 33%-33%-33% collaboration between the PI and Co-PIs)
- “Reactively Adaptive Malware: Attacks and Defenses”, Air Force Office of Scientific Research,” March 2010 – Feb. 2013, \$ 450,000. (PI: Kevin Hamlen, Co-PI: Latifur Khan, in the proposal Latifur Khan contributed equally with the PI and this is a 50%-50% collaboration between the PI and Co-PI)
- “CT-T: COLLABORATIVE RESEARCH: A Semantic Framework for Policy Specification and Enforcement in a Need to Share Environment ”, *National Science Foundation*, September 2007 - August 2009, \$590,000. (PI: Bhavani Thuraisingham, Co-PI: Latifur Khan, Murat Kantarcioglu; Latifur Khan contributed equally with the PI and second Co-PI: This is a 3-way 33%-33%-33% collaboration between the PI and Co-PIs)
- “Information Operations Across Infospheres”, *Air Force Office of Scientific Research*, January 2006 - December 2008, \$300,006. (PI: Bhavani Thuraisingham, Co-PI: Latifur Khan; In the proposal Latifur Khan contributed equally with the PI, this is a 50%-50% collaboration between the PI and Co-PI)
- “Design and Development of Semantic Web and Data Mining Technologies for Geospatial Data”, Raytheon, June 2006 – Nov. 2009, \$400,000. (PI: Bhavani Thuraisingham, Co-PI: Latifur Khan, in the proposal Latifur Khan contributed equally with the PI and this is a 50%-50% collaboration between the PI and Co-PI)
- “A Distributed Component Repository for Rapid Synthesis of Adaptive Real-Time Systems,” *National Science Foundation*, Sept. 2001 – Aug. 2004, \$499,866. (PI: I-Ling Yen, Co-PI: Farokh Bastani, Latifur Khan and Edwin Sha)
- “Secure Grid/Cloud Information Management”, Department of Defense, 2008 – 2012, \$2.2 million. (PI: Bhavani Thuraisingham, Co-PI: Latifur Khan, Murat Kantarcioglu)
- “Developing Advanced Middleware for Convergence of IT and Telecommunications”, *Alcatel USA*, January 2004, - January 2005, \$227,500. (PI: Farokh Bastani, Co-PI: G. R. Dattatreya, Latifur Khan, and I-Ling Yen)

- TC: Large: Collaborative Research: Privacy-Enhanced Secure Data Provenance, National Science Foundation (NSF), Sept 2011 - July 2016, \$ 912,068.00. (PI: Murat Kantarcioglu, Co-PI: Bhavani Thuraisingham; Senior Personnel: Latifur Khan)
- “Assured Information Sharing”, Multi-university research initiative (MURI) funded by the DoD/AFOSR, 2008 - 2013, \$1 million. (PI: Bhavani Thuraisingham, (2008 – 2010); Murat Kantarcioglu, (2010 – 2013), Senior Personnel: Latifur Khan)

### **Education Grants**

- “Scholarship for Service”, *National Science Foundation*, 2010 – 2013, \$1.8 million. (PI: Kamil Sarac, Co-PI: Bhavani Thuraisingham, Murat Kantarcioglu, Edwin Sha, Senior Personnel: Latifur Khan)
- “Incorporating Software Testing Into Undergraduate Courses”, *National Science Foundation*, \$250,000, Sept 2010 - August 2013. (PI: Eric Wong, Co-PI: Gopal Gupta, Latifur Khan, Sook Kim).
- “Capacity Building for Assured Cloud Computing,” *National Science Foundation*, \$264,580, Sept 2011 - August 2013, (PI: Bhavani Thuraisingham, Co-PI: Kevin Hamlen, Murat Kantarcioglu, Kamil Sarac, Latifur Khan)

### **Workshop Grants**

- “Data and Applications Security: Research Directions and Opportunities”, *National Science Foundation (NSF)*, September 2007 - August 2008, \$49,999. (PI: Bhavani Thuraisingham, Co-PI: Latifur Khan)
- “Intelligence and Security Informatics”, *National Science Foundation*, \$10,000. (PI: Bhavani Thuraisingham, Co-PI: Latifur Khan)

### **PATENT**

- “Systems and Methods for Detecting a Novel Data Class”, U.S. Patent and Trademark Office (USPTO) (pending) (please see section on Technology Transfer)

### **RESEARCH INTERESTS**

Data Mining, Semantic Web, Multimedia Information Management, Cloud Computing, Malware Detection, and Database Systems. (Please see narrative)

### **PUBLICATIONS**

*Disclaimer: Impact Factor for a journal is either found in the journal’s website or other relevant web site. For some journals, no impact factor information is traced. Hence, no impact factor information is reported. Citation count of a paper is based on Google’s scholar.*

## Refereed Journal Publications

### Published:

1. "Classification and Novel Class Detection in Concept-Drifting Data Streams under Time Constraints" Mohammad M. Masud, Jing Gao, **Latifur Khan**, Jiawei Han, and Bhavani Thuraisingham, *IEEE Transactions on Knowledge & Data Engineering (TKDE)*, 2011, IEEE Computer Society, June 2011, Vol. 23, No. 6, Page 859-874. (Full paper). (Impact Factor: 2.285)
2. "Geographically-Typed Semantic Schema Matching"  
Jeffrey Partyka, P. Parveen, **Latifur Khan**, Bhavani Thuraisingham, Shashi Shekhar  
*Web Semantics Journal: Science, Services and Agents on the World Wide Web*, Elsevier, Vol. 9, No 1, March 2011, Pages 52-70. (Full paper) (Impact Factor is 3.412).
3. "Geospatial Resource Description Framework (GRDF) and security constructs"  
Ashraful Alam, **Latifur Khan**, Bhavani Thuraisingham  
*Computer Standards & Interfaces* Vol. 33, No. 1, Page: 35-41 (2011). (Full paper) (Impact Factor: 1.373)
4. "Ontology based policy interoperability in geo-spatial domain"  
Mohammad Farhan Husain, Tahseen Al-Khateeb, Mohmmad Alam, **Latifur Khan**  
*Computer Standards & Interfaces* Vol. 33, No. 1, Page: 214-219 (2011). (Full paper) (Impact Factor: 1.373)
5. "Multimodal concept fusion using semantic closeness for image concept disambiguation"  
Ahmad Adel Abu-Shareha, Rajeswari Mandava, **Latifur Khan** and Dhanesh Ramachandram  
*Multimedia Tools and Applications Journal*, Springer, January, 2011. (Full paper) (Impact Factor is 0.626) (Citation Count: 1)
6. "Weakly Supervised Causality Identification from Aviation Safety Reports via Semantic Lexicon Construction"  
Muhammad Abedin, Vincent Ng and **Latifur Khan**  
*Journal of Artificial Intelligence Research (JAIR)* by AAAI press, Vol. 38 (2010) Page 569-631. (Full paper)
7. "Integrated Risk Evaluation for Automated Security Management"  
Mohammad Salim Ahmed, Ehab Al Shaer and **Latifur Khan**  
*Journal of Network and Systems Management, Special Issue on Security Management*, Springer. *Journal of Network and Systems Management (JNSM)*, Springer New York, ISSN 1064-7570, pp. 1-24, 2010. (Full Paper) (Impact Factor: 1.356)
8. "Secure Data Objects Replication in Data Grids"  
Manghui Tu, Peng Li, I-Ling Yen, Bhavani Thuraisingham, and **Latifur Khan**  
*IEEE Transactions on Dependable and Secure Computing*, January-March 2010, Vol. 7 No.1, page 50-64. (Full Paper) (Impact Factor: 2.093) (Citation Count: 1)

9. "Analysis of Firewall Policy Rules Using Traffic Mining Techniques,"  
Muhammad Abedin, Syeda Nessa, **Latifur Khan**, Ehab S. Al-Shaer, Mamoun Awad,  
International Journal of Internet Protocol Technology, *Special Issue on: Recent Advances in Network Security Attacks and Defenses*, Volume 5, Numbers 1-2, 9 April 2010, pp. 3-22 (20)  
Inderscience Publishers. (Full paper) (Citation Count: 1)
10. "Bi-directional Translation of Relational Data into Virtual RDF Stores"  
Sunitha Ramanujam, Vaibhav Khadilkar, **Latifur Khan**, Steven Seida, Murat Kantarcioglu,  
Bhavani Thuraisingham  
*International Journal of Semantic Computing (IJSC)*, World Scientific, Vol. 4, No. 4, Page:  
423-457, 2010. (Full Paper)
11. "Relationalization of Provenance Data in Complex RDF Reification Nodes",  
Sunitha Ramanujam, Anubha Gupta, **Latifur Khan**, Steven Seida and Bhavani  
Thuraisingham  
*Electronic Commerce Research Journal - special issue on Trust and Privacy Aspects of  
Electronic Commerce (Invited Paper)*, Vol. 10, No. 3-4, Page: 389-421, 2010, Springer  
Netherlands.  
(Full paper)
12. "Knowledge-based Image Annotation Refinement"  
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36. "Retrieval Effectiveness of Ontology-based Model for Information Selection"  
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40. "Facing the Reality of Data Stream Classification: Coping with Scarcity of Labeled Data"  
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Mohammad Husain, **Latifur Khan**, Bhavani Thuraisingham and Murat Kantarcioglu  
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50. "Multi-label ASRS Dataset Classification Using Semi Supervised Subspace Clustering"  
Mohammad Salim Ahmed, **Latifur Khan**, Nikunj Oza, Mandava Rajeswari  
*Statistical Analysis and Data Mining journal* (the official journal of ASA) (under 2<sup>nd</sup> round review) –Invited paper from NASA Conference on Intelligent Data Understanding (CIDU 2010), Mountain View, California.
51. "Cloud-based Malware Detection for Evolving Data Streams"  
Tahseen Al-Khateeb, Mohammad Mehedy Masud, Kevin Hamlen, **Latifur Khan**, Jing Gao, Jiawei Han and Bhavani Thuraisingham  
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Mehedy Masud, **Latifur Khan**, Bhavani Thuraisingham (Hardcover)  
CRC Press, Taylor and Francis, In Press, Publication Date: September 2011.

## **Books Edited**

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Editors: Valery Petrushin and **Latifur Khan**  
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55. "Privacy and Security Challenges in Geospatial Information Systems"  
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62. "Object Boundary Detection for Hierarchical Image Classification"  
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*Mining Multimedia and Complex Data*, ed. C. Djeraba, S. J. Simoff, and O. R. Zaiane , ISBN 3-540-20305-2, DOI:10.1007/b12031, Chapter 6, Page 36-49, Springer-Verlag Publishing, Heidelberg, Germany (2003).
63. "Change Detection of RDF Documents Using Signatures"  
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*Real World RDF and Semantic Web*, ed. V. Kashyap and L. Shklar, Series of Frontiers of Artificial Intelligence and Applications, IOS Press, ISBN 1-58603-306-9, Page 93-116, Amsterdam, Netherlands (2003).

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64. "Learning Cause Identifiers with Fine-Grained Annotations"  
Muhammad Abedin, Vincent Ng, and **Latifur Khan**  
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65. "Scalable Complex Query Processing Over Large Semantic Web Data Using cloud"  
Mohammad Husain, James McGlothlin, **Latifur Khan** and Bhavani Thuraisingham  
To appear in *Proc. of the Fourth IEEE International Conference on Cloud Computing (CLOUD 2011)*, July 4-9, 2011, Washington DC, USA. (acceptance rate 18%)
66. "Addressing Concept-Evolution in Concept-Drifting Data Streams"  
Mohammad Masud, Qing Chen, **Latifur Khan**, Charu Aggarwal, Jing Gao, Jiawei Han, and Bhavani Thuraisingham,  
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67. "Multimodal Concept Fusion using Semantic Closeness for Image Concept Disambiguation"  
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68. "Ontology-driven Query Expansion Methods to Facilitate Federated Queries"  
Neda Alipanah, P. Parveen, **Latifur Khan**, Bhavani Thuraisingham  
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69. "A Token-Based Access Control System for RDF Data in the Clouds"

- Arindham Khaled, Mohammad Husain, **Latifur Khan**, Kevin Hamlen, Bhavani M. Thuraisingham  
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70. “Using Correlation Based Subspace Clustering For Multi-label Text Data Classification”  
 Mohammad Salim Ahmed, **Latifur Khan**, Mandava Rajeswari  
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71. “Bi-directional Translation of Relational Data into Virtual RDF Stores”  
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72. “A Semantic Web Repository for Managing and Querying Aligned Knowledge.”  
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73. “Multi-label ASRS Dataset Classification Using Semi Supervised Subspace Clustering”  
 Mohammad Salim Ahmed, **Latifur Khan**, Nikunj Oza, Mandava Rajeswari  
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74. “Classification and Novel Class Detection of Data Streams in a Dynamic Feature Space”  
 Mohammad M. Masud, Qing Chen, Jing Gao, **Latifur Khan**, Jiawei Han, Bhavani Thuraisingham  
 In Proc. of *European Conference on Machine Learning and Knowledge Discovery in Databases, ECML PKDD 2010*, Barcelona, Spain, September 20 - 24, 2010, Springer 2010, ISBN 978-3-642-15882-7, Page: 337-352. (Acceptance Rate: 18.2%) (Citation Count: 2)
75. “TweetHood: Agglomerative Clustering on Fuzzy k-Closest Friends with Variable Depth for Location Mining”  
 Satyen Abrol, **Latifur Khan**  
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76. “Materializing and Persisting Inferred and Uncertain Knowledge in RDF Datasets”  
 James McGlothlin and **Latifur Khan**  
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78. "Tweets mining using WIKIPEDIA and impurity cluster measurement"  
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Mohammad M. Masud, Jing Gao, **Latifur Khan**, Jiawei Han, and Bhavani Thuraisingham  
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80. "A Data Intensive Multi-chunk Ensemble Technique to Classify Stream Data Using Map-Reduce Framework"  
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Satyen Abrol And **Latifur Khan**,  
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82. "Storage and Retrieval of Large RDF Graph Using Hadoop and MapReduce" Mohammad Husain, Pankil Doshi, **Latifur Khan**, Bhavani M. Thuraisingham:  
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83. "SISC: A Text Classification Approach Using Semi Supervised Subspace Clustering"  
Mohammad Ahmed, and **Latifur Khan**  
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84. "Geographically-typed semantic schema matching"  
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85. "MapIt: Smarter Searches using Location Driven Knowledge Discovery and Mining"  
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86. "R2D: A Bridge between the Semantic Web and Relational Visualization Tools"  
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87. "RDFKB: Efficient Support For RDF Inference Queries and Knowledge Management"  
James Mcglathlin, and **Latifur Khan**  
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88. "Lacking Labels In The Stream: Classifying Evolving Stream Data With Few Labels"  
Clay Woolam, Mohammed Masud, and **Latifur Khan**  
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89. "R2D: Extracting relational structure from RDF stores"  
Sunitha Ramanujam, Anubha Gupta, **Latifur Khan**, Steven Seida, Bhavani M. Thuraisingham  
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90. "Semantic Schema Matching Without Shared Instances"  
Jeff Partyka, Neda Alipanah, **Latifur Khan**, and Bhavani M. Thuraisingham  
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91. "Integrating Novel Class Detection with Classification for Concept-Drifting Data Streams"  
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92. "A Relational Wrapper for RDF Reification"  
Sunitha Ramanujam, Anubha Gupta, **Latifur Khan**, Steven Seida and Bhavani Thuraisingham  
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93. "Relationalizing RDF stores for tools reusability"  
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In Proc. of *18th International Conference on World Wide Web, WWW 2009*, Madrid, Spain, April 20-24, 2009, Page: 1059-1060 (**Nominated for Best Poster Paper Award**). (Acceptance Rate =10%) (Citation Count: 2)
94. "A Multi-Partition Multi-Chunk Ensemble Technique to Classify Concept-Drifting Data Streams"  
Mohammad Masud, Jing Gao, **Latifur Khan**, Jiawei Han, and Bhavani Thuraisingham  
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95. "Real-Time Knowledge Discovery and Dissemination for Intelligence Analysis"  
Bhavani M. Thuraisingham, **Latifur Khan**, Murat Kantarcioglu, Sonia Chib, Jiawei Han, Sang Son,  
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96. "A Practical Approach to Classify Evolving Data Streams: Training with Limited Amount of Labeled Data"  
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97. "Multi-concept Document Classification using a Perceptron-like Algorithm"  
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98. "An Effective Evidence Theory based K-nearest Neighbor(KNN) classification"  
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99. "Content-based Ontology Matching for GIS Datasets"  
Jeffrey Partyka, Neda Alipanah, **Latifur Khan**, Bhavani Thuraisingham, and Shashi Shekhar  
In Proc. of *16th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2008)*, Page 407-410, Irving, California, November, 2008. (Citation Count: 4)
100. "Flow-based Identification of Botnet Traffic by Mining Multiple Log Files"  
Mohammad M. Masud, Tahseen Al-khateeb, **Latifur Khan**, Bhavani Thuraisingham, and Kevin W. Hamlen  
In Proc. of the *International Conference on Distributed Frameworks & Applications (DFMA'08)*, Penang, Malaysia, Oct 21-22, 2008, pp 200-206. (Citation Count: 7)
101. "Ontology Alignment Using Multiple Contexts"  
Jeff Partyka, Neda Alipanah, **Latifur Khan**, Bhavani M. Thuraisingham, Shashi Shekhar  
In Proc. of *International Semantic Web Conference (Posters & Demos)*, Karlsruhe, Germany, October, 2008.
102. "Software Fault Localization Using N-gram Analysis"  
Syeda Nessa, Muhammad Abedin, W. Eric Wong, **Latifur Khan**, and Yu Qi  
In Proc. of *Third International Conference on Wireless Algorithms, Systems, and Applications, (WASA 2008)*, Page 548-559, Dallas, TX, USA, October 2008, Springer ISBN 978-3-540-88581-8
103. "The Randomized Approximating Graph Algorithm for Image Annotation Refinement Problem"  
Yohan Jin, Kibum Jin, **Latifur Khan**, and Balakrishnan Prabhakaran  
*Workshop on Semantic Learning Applications in Multimedia* in conjunction with 2008 IEEE Conference on Computer Vision and Pattern Recognition, Alaska, July 2008 (**Best Paper Award**). (Citation Count: 2)

104. "Privacy/Analysis Tradeoffs in Sharing Anonymized Packet Traces: Single-Field Case"  
Bill Yurcik, Clay Woolam, Greg Hellings, **Latifur Khan**, and Bhavani Thuraisingham  
In Proc. of *ARES 2008 – The International Security and Dependability Conference*, March 2008, Page 237-244, Barcelona, Spain. (Acceptance Rate: 21%) (Citation Count: 3)
105. "Making Quantitative Measurements of Privacy/Analysis Tradeoffs Inherent to Packet Trace Anonymization"  
Bill Yurcik, Clay Woolam, Greg Hellings, **Latifur Khan**, and Bhavani Thuraisingham,  
In *Proc. of Financial Cryptography*, Cozumel, Mexico, January 2008, Page 323-324.
106. "A Novel Quantitative Approach For Measuring Network Security"  
Mohammad Salim Ahmed, Ehab Al-Shaer, **Latifur Khan**  
In Proc. of *Infocom Mini Conference*, April 2008, Pheonix, AZ. (Acceptance Rate: 9.3%) (Citation Count: 16)
107. "Towards Autonomic Risk-aware Security Configuration"  
Mohammad Salim Ahmed, Ehab Al-Shaer, Mohamed Mahmoud Taibah, Muhammad Abedin, and **Latifur Khan**  
In Proc. of *IEEE/IFIP Network Operations and Management Symposium (NOMS)*, Page 722-725, April 2008, Bahia, Brazil. (Citation Count: 3) (Acceptance Rate: 29%)
108. "Geospatial Resource Description Framework (GRDF) and Security Constructs"  
Ashraful Alam, **Latifur Khan**, and Bhavani Thuraisingham  
In Proc. of *First International Workshop on Secure Semantic Web (SSW'08)* in conjunction with the *24th International Conference on Data Engineering (ICDE'08)* April 7 - 12, 2008, Cancun, México, Page 475-481.
109. "Ontology based Policy Interoperability in Geo-Spatial Domain"  
Mohammad Husain, Mohammad Alam, and **LatifurKhan**  
In Proc. of *First International Workshop on Secure Semantic Web (SSW'08)* in conjunction with the *24th International Conference on Data Engineering (ICDE'08)* April 7 - 12, 2008, Cancun, México, Page 482-489.
110. "SCRUB-tcpdump: A Software Tool for Multi-Field Multi-Level Packet Trace Anonymization"  
Bill Yurcik, Clay Woolam, Greg Hellings, **Latifur Khan**, and Bhavani Thuraisingham  
In Proc. of *IEEE/IFIP Network Operations and Management Symposium (NOMS)*, Page 630-644, Salvador da Bahia, Brazil, April 2008. (Acceptance Rate: 29%)
111. "A Data Mining Technique to Detect Remote Exploits"  
Mohammad Masud, **Latifur Khan**, Bhavani Thuraisingham, Xinran Wang, Peng Liu and Sencun Zhu  
In Proc. of the *Fourth Annual IFIP WG 11.9 International Conference on Digital Forensics*, Japan, January 27 - 30, 2008, Page 177 - 189. (Acceptance Rate: 67%) (Citation Count: 1)
112. "Geospatial data qualities as web services performance metrics"  
Ganesh Subbiah, Ashraful Alam, **Latifur Khan**, and Bhavani M. Thuraisingham  
In Proc. of *15th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2008)*, Page 407-410, Seattle, Washington, November, 2007. (Acceptance Rate 28.7%) (Citation Count: 5)

113. "DAGIS: A Geospatial Semantic Web Services Discovery and Selection Framework"  
Ashraful Alam, Ganesh Subbiah, **Latifur Khan**, Bhavani M. Thuraisingham  
*Proc. of GeoSpatial Semantics, Second International Conference, GeoS 2007*, Mexico City, Mexico, November 29 - 30, 2007, Proceedings. Lecture Notes in Computer Science 4853 Springer 2007, ISBN 978-3-540-76875-3, Page 268 - 277. (Acceptance Rate: 54%) (Citation Count: 4)
114. "Geospatial Data Mining for National Security Land Cover Classification and Grouping for Semantic Assessment"  
Chuanjun Li, **Latifur Khan**, Bhavani Thuraisingham, Mohammad Hussain, Shaofei Chen, and Fang Qiu  
*Proc. of ISI 2007 Intelligence and Security Informatics 2007*, New Jersey, May 2007, Page 254 - 261.
115. "Feature based Techniques for Auto-detection of Novel Email Worms"  
Mohammad Masud, **Latifur Khan**, and Bhavani Thuraisingham  
*Proc. of 11<sup>th</sup> Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2007)*, Nanjing, China, May 2007, LNAI 4426/2007, Page 205 - 216. (Acceptance Rate: 4.7%) (Citation Count: 4)
116. "SCRUB-tcpdump: A Multi-Level Packet Anonymizer Demonstrating Privacy/Analysis Tradeoffs"  
Bill Yurcik, Clay Woolam, Greg Hellings, **Latifur Khan**, and Bhavani Thuraisingham  
*Proc. of Third IEEE International Workshop on the Value of Security through Collaboration (SECOVAL)*, Nice France, September 2007. (Citation Count: 7)
117. "Hybrid Model for Auto-Detection of New Malicious Executables"  
Mohammad Masud, **Latifur Khan** and Bhavani Thuraisingham  
In *Proc. of 2007 IEEE International Conference on Communications (ICC 2007): Communications QoS, Reliability and Performance Modeling Symposium*, Glasgo, UK, June 2007, Page 1443-1448. (Citation Count: 7)
118. "Vulnerability Analysis For Evaluating Quality of Protection of Security Policies"  
Muhammad Abedin, Syeda Nessa, Ehab Al-Shaer and **Latifur Khan**  
In *Proc. of Quality of Protection Workshop* with 13th ACM Conference on Computer and Communications Security (CCS-13) Alexandria, Virginia, USA, Virginia, October, 2006. (Citation Count: 26)
119. "Reasoning with semantics-aware access control policies for geospatial web services"  
Ashraful Alam, Ganesh Subbiah, Bhavani Thuraisingham, and **Latifur Khan**  
In *Proc. of the 3rd ACM workshop on Secure web services* in conjunction with 13th ACM Conference on Computer and Communications Security (CCS-13) Alexandria, Virginia, USA, Page: 69 – 76, 2006, ISBN:1-59593-546-0. (Citation Count: 11)
120. "A Knowledge-based Approach to Detect New Malicious Executables"  
Mohammad Masud, **Latifur Khan**, and Bhavani Thuraisingham  
In *Proc. of the Second Secure Knowledge Management Workshop (SKM) 2006*, Brooklyn, NY, USA, September 2006.

121. "Improving Image Annotations using Fuzzy Pruning and Association Rule Mining"  
**Latifur khan**  
In *Proc. of ACM 7th International Workshop on Multimedia Data Mining (MDM/KDD206)* in conjunction with ACM SIGKDD 2006, Page 39 - 48, Philadelphia, August 2006.
122. "Detection and Resolution of Anomalies in Firewall Policy Rules"  
Muhammad Abedin, Syeda Nessa, **Latifur Khan**, Bhavani Thuraisingham  
In *Proc. of 20th IFIP WG 11.3 Working Conference on Data and Applications Security (DBSec 2006)*, Springer-Verlag, July 2006, SAP Labs, Sophia Antipolis, France, Page 15 - 29. (Acceptance Rate: 39%) (Citation Count: 9)
123. Access control, confidentiality and privacy for video surveillance databases  
Bhavani M. Thuraisingham, Gal Lavee, Elisa Bertino, Jianping Fan, and **Latifur Khan**  
In *Proc. of SACMAT 2006, 11th ACM Symposium on Access Control Models and Technologies*, Lake Tahoe, California, USA, June 7-9, 2006, Proceedings. ACM 2006, ISBN 1-59593-353-0, Page: 1-10. (Acceptance Rate: 30%) (Citation Count: 3)
124. "Email Worm Detection Using Naïve Bayes and Support Vector Machine"  
Mohammad M. Masud, **Latifur Khan**, Ehab Al-Shaer  
In *Proc. of ISI 2006 Intelligence and Security Informatics*, San Diego, California, Page 733 - 734, (May 2006).
125. "Analysis of Firewall Policy Rule Using Data Mining Techniques"  
Kororsh Golnabi, Richard Min, **Latifur Khan** and Al-Shaer Ehab  
In *Proc. of 2006 IEEE/IFIP Network Operations & Management Symposium, (NOMS 2006)*, April 2006 (2006), Page 305 - 315, Vancouver, Canada. (**Nominated for Best Paper Award**) (Acceptance rate: 28.5%) (Citation Count: 36)
126. "A Framework for Image Classification"  
Mamoun Awad, Yohan Jin, **Latifur Khan**, George Chen, and Fehmi Chebil  
In *Proc. of IEEE 2006 Southwest Symposium on Image Analysis and Interpretation*, March 2006 (2006), Page 134 - 138, Denver, Colorado, USA.
127. "Image Annotations By Combining Multiple Evidence & WordNet"  
Yohan Chin, **Latifur Khan**, Lei Wang, and Mamoun Awad  
In *Proc. of 13th Annual ACM International Conference on Multimedia (MM 2005)*, Singapore, November 2005 (2005), Page 706 - 715. (Acceptance Rate: 16%) (Citation Count: 112)
128. "Improving Image Annotations using WordNet"  
Yohan Chin, Lei Wang, and **Latifur Khan**  
In *Proc. of International Workshop on Multimedia Information Systems (MIS 2005)*, Sorrento, Italy, September 2005 (2005), Page 115 - 130. (Acceptance Rate: 50%) (Citation Count: 4)
129. "A Framework for a Video Analysis Tool for Suspicious Event Detection"  
Gal Lavee, **Latifur Khan**, and Bhavani Thuraisingham  
In *Proc. of Sixth International Workshop on Multimedia Data Mining in conjunction with KDD 2005: The Eleventh ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, Chicago, IL, USA, August 2005 (2005), Page 79 - 84.

130. "Message Correlation in Automated Communication Surveillance through Singular Value Decomposition"  
Ryan Layfield, **Latifur Khan**, and Bhavani Thuraisingham  
In *Proc of Sixth International Workshop on Multimedia Data Mining* in conjunction with KDD 2005: The Eleventh ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, Chicago, IL, USA, August 2005 (2005), Page 85 - 88.
131. "Dependable Real-time Data Mining"  
Bhavani Thuraisingham, **Latifur Khan**, Chris Clifton, John Maurer, and Marion Ceruti  
**Invited Paper** in *8th IEEE International Symposium on Object-oriented Real-time Distributed Computing*, Seattle, Washington, May, 2005 (2005), Page 158 - 165. (Citation Count: 7)
132. "A Link-based Privacy Preserving Data Mining Framework"  
Li Liu, **Latifur Khan**, Bhavani Thuraisingham, and Chris Clifton  
In *Proc. of 2005 South Central Information Security Symposium (SCISS '05)*, Austin, Texas, April 2005 (2005), Page 16.
133. "Link Analysis of Social Activity and Suspicious Topic Propagation"  
Ryan Layfield, **Latifur Khan**, and Bhavani Thuraisingham  
In *Proc. of 2005 South Central Information Security Symposium (SCISS '05)*, Austin, Texas, April 2005 (2005), Page 17.
134. "Suspicious Event Detection in Surveillance Video"  
Gal Lavee, Lei Wang, **Latifur Khan**, and Bhavani Thuraisingham  
In *Proc. of 2005 South Central Information Security Symposium (SCISS '05)*, Austin, Texas, April 2005 (2005), Page 18.
135. "Automatic Image Annotation and Retrieval using Weighted Feature Selection"  
Lei Wang, Li Liu, **Latifur Khan**, and Weili Wu  
In *Proc. of IEEE Sixth International Symposium on Multimedia Software Engineering*, Miami, Florida, December 2004 (2004), Page 435-442. (Citation Count: 19)
136. "Automatic Image Annotation and Retrieval Using Subspace Clustering Algorithm"  
Lei Wang, Li Liu, and **Latifur Khan**  
In *Proc. of 2nd ACM International Workshop on Multimedia Databases*, Arlington, Virginia, November 2004 (2004), Page 100-108. (Acceptance Rate: 39%)
137. "An Effective Support Vector Machines (SVM) Performance using Hierarchical Clustering"  
Mamoun Awad, **Latifur Khan**, Farokh Bastani, and I-Ling Yen  
In *Proc. of the 16th IEEE International Conference on Tools with Artificial Intelligence*, Boca Raton, Florida, November 2004 (2004), Page 663-667. (Acceptance Rate: 30%) (Citation Count: 16)
138. "Automated Test Data Generation Using MEA-Graph Planning"  
Manish Gupta, Farokh B. Bastani, **Latifur Khan**, and I-Ling Yen  
In *Proc. of the 16th IEEE International Conference on Tools with Artificial Intelligence*, Boca Raton, Florida, November 2004 (2004), Page 174-182. (Acceptance Rate: 30%) (Citation Count: 8)

139. "Real-time Classification of Multivariate Motion Data Using Support Vector Machines"  
Chuanjun Li, Punit R. Kulkarni, Li Liu, B. Prabhakaran, and **Latifur Khan**  
In *Proc. of ACM SIGKDD 5<sup>th</sup> International Workshop on Multimedia Data Mining*, Seattle, Washington, August 2004 (2004), Page 1-7. (Citation Count: 7)
140. "A Framework for Image Annotation Using Semantic Web"  
Ahmed Bashir and **Latifur Khan**  
In *Proc. of ACM SIGKDD First International Workshop on Mining for and from the Semantic Web (MSW 2004)*, Seattle, Washington, August 2004 (2004). (Citation Count: 4)
141. "Effective Intrusion Detection Using Support Vector Machines"  
**Latifur Khan**, Mamoun Awad, and Qing Chen  
In *Proc. of 2004 South Central Information Security Symposium (SCISS)*, Rice University, Houston, Texas, April 2004 (2004), Page 8.
142. "Hybrid DNA Sequence Similarity Scheme for Training Support Vector Machines"  
Mamoun Awad and **Latifur Khan**  
In *Proc. of the International Conference on Computer and Information Technology*, Dhaka, Bangladesh, December 2003 (2003), Page 247-251. (Acceptance Rate: 55%)
143. "Automatic Software Clustering Based On a New Hierarchical Algorithm"  
Lei Wang, **Latifur Khan**, and I-Ling Yen  
In *Proc. of international Workshop on Multimedia Data and Document Engineering (MDDE)*, Berlin, Germany, September 2003.
144. "A New Hierarchical Approach for Image Clustering"  
Lei Wang, Mohammad Bayan, **Latifur Khan**, and Vijay Rao  
In *Proc. of ACM SIGKDD 4<sup>th</sup> International Workshop on Multimedia Data Mining*, Washington DC, August 2003 (2003), Page 72 - 79.
145. "Hierarchical Clustering of Gene Microarray Expression Data"  
Feng Luo, Kun Tang, and **Latifur Khan**  
In *Proc. of Workshop on Clustering High Dimensional Data and its Applications in Conjunction with the Third SIAM International Conference on Data Mining (SDM 2003)*, San Francisco, CA, May 2003 (2003), Page 6 - 17.
146. "Intrusion Detection Using Clustering Approaches"  
**Latifur Khan**  
In *Proc. of The South Central Information Security Symposium, SCISS*, University of North Texas, Denton, Texas, April 2003 (2003), Page 3.
147. "Hierarchical Clustering of Gene Expression Data"  
Feng Luo, Kun Tang, and **Latifur Khan**  
In *Proc. of 3rd IEEE International Symposium on Bio-informatics and Bioengineering*, Bethesda, Maryland, March 2003 (2003), Page 328 - 335. (Acceptance Rate: 44%) (Citation Count: 11)
148. "Ontology Construction for Information Selection"  
**Latifur Khan** and Feng Luo

In *Proc. of 14th IEEE International Conference on Tools with Artificial Intelligence*, Washington DC, November 2002 (2002), Page 122 - 127. (Acceptance Rate: 60%) (Citation Count: 102)

149. "Automatic Ontology Derivation Using Clustering for Image Classification"  
**Latifur Khan** and Lei Wang  
In *Proc. of Eighth International Workshop on Multimedia Information Systems*, Tempe, Arizona, October 2002 (2002), Page 56 - 65. (Citation Count: 24)
150. "Effective Management of Location Dependent Continuous Queries in Mobile Environment"  
**Latifur Khan** and Manish Gupta  
In *Proc of IEEE DEXA Fifth International Workshop on Mobility in Databases and Distributed Systems*, Aix-en-Provence, France, September 2002 (2002), Page 705 - 709. (Acceptance Rate: 57%) (Citation Count: 5)
151. "Ontology-based Image Classification Using Neural Networks"  
Casey Breen, **Latifur Khan**, Arun Ponnusamy, and Lei Wang  
In *Proc. of SPIE Internet Multimedia Management Systems III*, Boston, MA, July 2002 (2002), Page 198 - 208. (Citation Count: 27)
152. "Object Boundary Detection for Ontology-based Image Classification"  
Lei Wang, **Latifur Khan**, and Casey Breen  
In *Proc. of Third International Workshop on Multimedia Data Mining in Conjunction with Eighth ACM SIGKDD*, Edmonton, Alberta, Canada, July 2002 (2002), Page 51 - 61. (Acceptance Rate: 54%) (Citation Count: 11)
153. "Using Blue tooth to Facilitate Communication in a Disaster Relief Scenario"  
Mohammad Mirza and **Latifur Khan**  
In *Proc. of International Conference on Wireless Networks (ICWN'02)*, Las Vegas, June 2002 (2002), Page 86 - 96. (Acceptance Rate: 48%)
154. "A Component-based Approach for Embedded Software Development"  
I-Ling Yen, J. Goluguri, Farokh Bastani, **Latifur Khan**, and John Linn  
In *Proc. of 5th IEEE International Symposium on Object-oriented Real-time Distributed Computing*, Washington, April 2002 (2002), Page 402 - 412. (Citation Count: 27)
155. "Change Detection in XML Documents"  
**Latifur Khan** and Yan Rao  
In *Proc. of the International Conference on Computer and Information Technology*, Dhaka, Bangladesh, December 2001 (2001), Page 185 - 189. (Acceptance Rate: 66%) (Citation Count: 13)
156. "A Performance Evaluation of Storing XML Data in Relational DBMS"  
**Latifur Khan** and Yan Rao  
In *Proc. of ACM 3rd International Workshop on WEB Information and Data Management (WIDM)*, Georgia, November 2001 (2001), Page 31 - 37. (Acceptance Rate: 32%) (Citation Count: 79)
157. "An On-Line Software Repository for Embedded Systems"  
I-Ling Yen, **Latifur Khan**, Balakrishnan Prabhakaran, Farokh Bastani, and John Linn

In *Proc. of The Thirteenth IEEE International Conference on Tools with Artificial Intelligence*, Dallas, TX, November 2001 (2001), Page 314 - 324. (Acceptance Rate: 51%) (Citation Count: 12)

158. "Effective Retrieval of Audio Information from Annotated Text Using Ontologies"  
**Latifur Khan** and Dennis McLeod  
In *Proc. of ACM SIGKDD Workshop on Multimedia Data Mining*, Boston, MA, August 2000 (2000), Page 37 - 45. (Acceptance Rate: 51%) (Citation Count: 18)
159. "Disambiguation of Annotated Text of Audio using Ontologies"  
**Latifur Khan** and Dennis McLeod  
In *Proc. of ACM SIGKDD Workshop on Text Mining*, Boston, MA, August 2000 (2000), Page 99 - 100. (Citation Count: 16)
160. "Audio Structuring and Personalized Retrieval Using Ontologies"  
**Latifur Khan** and Dennis McLeod  
In *Proc. of IEEE Advances in Digital Libraries, Library of Congress*, Washington, DC, May 2000 (2000), Page 116 - 126. (Acceptance Rate: 42%) (Citation Count: 44)
161. "Improving the Performance of Audio-Based Similarity Queries with Clustering"  
Cyrus Shahabi, Mohammad Alshayegi, Ning Jiang, and **Latifur Khan**  
In *Proc. of ACM First International Workshop on Multimedia Intelligent Storage and Retrieval Management*, Orlando, FL, November 1999 (1999).
162. "Structuring and Querying Personalized Audio Using Ontologies"  
**Latifur Khan**  
In *Proc. of ACM Multimedia*, Vol. 2, Orlando, FL, November 1999 (1999), Page 209 - 210. (Acceptance Rate: 38%) (Citation Count: 5)
163. "Selective Placement and Replication Strategies for Storing Audio Clips in a Naval Application"  
Cyrus Shahabi and **Latifur Khan**  
In *Proc. of SPIE Multimedia Storage and Archiving Systems III*, Boston, MA, November 1998 (1998), Page 338 - 349.
164. "Run-Time Optimization of Join Queries for Distributed Databases over the Internet"  
Cyrus Shahabi, **Latifur Khan**, Dennis McLeod, and Vishal Shah  
In *Proc. of Communication Networks and Distributed Systems Modeling and Simulation (CNDS)*, San Francisco, CA, January 1998 (1998).
165. "Improving the Precision of Lexicon-to-Ontology Alignment Algorithms"  
**Latifur Khan** and Eduard Hovy  
In *Proc. of AMTA/SIG-IL First Workshop on Interlinguas*, San Diego, CA, October 1997 (1997) (Citation Count: 8).

### Seminars/Talks

- Stanford University
- Information Sciences Institute (ISI); USC
- Southern Methodist University (SMU)

- UT Southwestern Medical Center
- National University of Singapore (NUS)
- Nanyang Technical University (NTU), Singapore
- Institute for Infocomm Research (I<sup>2</sup>R), Singapore
- Bangladesh University of Engineering and Technology (BUET)
- USM, Malaysia
- Nokia
- Boeing
- Tektronix
- Alcatel

## ADVISOR

Professor Dennis McLeod, Department of Computer Science, School of Engineering, *University of Southern California (USC)*, Los Angeles, California, USA.

## ADVISEE

### Post-doc:

Dr. Mamoun Awad (2006 - 2007)  
 Dr. Chuan Li (2006)  
 Dr. Mohammad Masud (2010 - 2012)

## Ph.D. Students

1. Salim Ahmed (Ph.D. Candidate—Expected Graduation Date: Fall 2011)
2. James McGlothlin (Recipient of *Louis Beecherl, Jr. Graduate Fellowship* - Expected Graduation Date: Fall 2011)
3. Tahseen Al-khateeb (Expected Graduation Date: Spring 2012)
4. Sunitha Ramanujam (Ph.D. Candidate—Expected Graduation Date: Fall 2011)
5. Jeffrey L Partyka (Ph.D. Candidate—Expected Graduation Date: Spring 2012)
6. Satyen Abrol (Expected Graduation Date: Fall 2013)

## Graduated

### Ph.D.

1. Feng Luo (Ph.D. Summer 2004; Dissertation Title: *Mining Gene Microarray Expression Profiles*; **Assistant Professor**, *Clemson University, USA* since January 2006).
2. Mamoun Awad (Ph.D. Fall 2005; Dissertation Title: *Effective Data Mining for Intrusion Detection and WWW Prediction*; **Assistant Professor**, *University of UAE, Al-Ain*, since September 2006).
3. Lei Wang (Ph.D. Fall 2006; Dissertation Title: *Automatic Image Annotation and Mining*, **Microsoft** at Redmond, USA).

4. Mohammad Mehedy Masud (Received the *Louis Beecherl Jr. Graduate Fellowship* at UTD, Ph.D. Fall 2009; Dissertation Title: “*Adaptive Classification of Scarcely Labeled Evolving Data Stream*”, Post-doc at the University of Texas at Dallas).
5. Qing Chen (PhD. Fall 2010; Dissertation Title: *Data Stream Classification Techniques for Multiple Novel Classes and Dynamic Feature Spaces*, Software Development Director, China National Petroleum Company (CNPC), Richfit IT LLC, Beijing, China).
6. Arshad Ul Abedin (co-advised; PhD. Spring 2011; Dissertation Title: *Automatic Cause Identification From Aviation Safety Incident Reports*; Member of Technical Staff, BloomReach, Inc., Mountain View, California).
7. Mohammad Farhan Husain, (co-advised; PhD. Spring 2011; Dissertation Title: *Data Intensive Query Processing for Semantic Web Data Using Hadoop and MapReduce*, Amazon, Seattle, Washington, June 2011)

#### **M.S.**

1. Jason Switzer, (M.S. Thesis: *Semi-supervised Subjectivity Classification and application to Jargon Heavy Corpora*).
2. Korosh Golnabi (“**Get-Doc**” Student, MS Thesis: *Updated Firewall Policy Rules using Association Rule Mining*)
3. Ahmed Bashir (M.S. Thesis: *A Framework for Image Annotation using the Semantic Web*)
4. Manish Gupta (M.S. Thesis: *A Distributed For Handling Location Dependent Continuous Queries in Mobile Environment*)
5. Mohammad Mirza (M.S. Thesis: *Data Management in a Disaster Relief Scenario Using Bluetooth*)
6. Casey Breen (M.S.)
7. Rajesh Bhairampally (M.S.)
8. Yan Rao (M.S.)
9. Greg Hellings (M.S.)

#### **Anson L. Clark Program and PISD/Hi-TECCC Program**

1. Ryan A Watts, Summer 2007
2. Shoel Sheikh, Summer 2009
3. Adam Stutsman, Summer 2010
4. Zackary Weger, Summer 2011

**Classroom Teaching:**

Sec: Section

Sem: Semester

Enr: Enrollment

N: Number of Evaluations/Participants

Question #1: The course as a whole was:

Question #2: The course content was:

Question #3: The instructor's contribution to the course was:

Course Num	Course Title	Sec	Sem	Enr	N	Instructor Median Values for Questions		
						1	2	3
CS6360	Database Design	081	U06	38	29	3.94	3.77	3.76
CS6360	Database Design	002	F06	45	35	3.71	3.78	3.45
CS4347	Database Systems	001	S07	6	4	4.00	4.00	4.50
CS7301	Recent Advances in Computing: Data Mining	003	S07	27	17	3.33	3.41	3.41
CS6360	Database Design	081	U07	40	26	4.14	4.11	3.90
CS6360	Database Design	001	F07	66	28	4.11	4.22	4.04
CS4347	Database Systems	001	S08	42	23	3.28	3.33	3.12
CS7301	Recent Advances in Computing: Advanced Data Mining	001	S08	23	15	4.37	4.40	3.80
CS6360	Database Design	001	F08	51	21	3.81	3.66	3.40
CS/SE 4347	Database Systems	001	S09	10	5	3.25	3.25	2.50
CS7301	Recent Advances in Computing: Advanced Data Mining	001	S09	18	13	3.75	3.83	3.66
CS6360	Database Design	501	F10	59	38	3.96	4.13	3.83

Note that in Fall 2009 and Spring 2010, Dr. Khan was on Sabbatical leave. Hence, he did not teach any classes at that time.

## **Professional Membership**

Senior Member, IEEE  
ACM Life Time Member (Senior Level)  
Member, SIAM

## **Prototypes/Tools Developed with Students**

1. Data Mining Toolkit for Malware Detection, 2005 – 2010  
Mehedy Masud, Latifur Khan, Bhavani Thuraisingham  
Developed data mining algorithms using WEKA and other tools to detect buffer overflow, and malicious code.
2. Stream Mining Tools, 2008 – 2010  
Mehedy Masud, Latifur Khan, Bhavani Thuraisingham with Jiawei Han et al  
Developed a stream mining algorithm for novel class detection. The tool will be distributed for external users.
3. Ontology Alignment in Geospatial Data, 2007 – 2010  
Jeff Partyka, Latifur Khan, Bhavani Thuraisingham  
Developed ontology alignment algorithms for integrating heterogeneous geospatial database systems. The algorithms were integrated into Intelligence Community's Blackbook.
4. Translators and Mappings from Relational to RDF Data and Vice Versa, 2007 – 2010  
Sunitha Sriram, Latifur Khan, Bhavani Thuraisingham  
Developed a tool for use by relational database users and RDF users to carry out translations. Tool will be distributed to external users.
5. TweetHood, 2010 – Present  
S. Abrol, L. Khan, B. Thuraisingham  
Location aware tweet mining
6. Federated Query Processing in Clouds, 2008 – 2010  
Farhan Husain, Pankil Doshi, Latifur Khan, Bhavani Thuraisingham  
Develop a cloud computing platform with Hadoop and MapReduce and implement secure federated query processing and optimization algorithms on top of this platform.
7. SPARQL Query Optimizer, 2009 – 2010  
Farhan Husain, Latifur Khan, Bhavani Thuraisingham  
This system is developing a SPARQL query optimizer for the Hadoop/MapReduce framework.
8. DGSOT: Dynamical Growing Self Organizing Tree  
Feng Luo, and Latifur Khan  
Developed a hierarchical clustering algorithm and tested for Gene expression dataset.

## **Blackbook Enhancements and GOTS (Government Off the Shelf)**

Geospatial Proximity Algorithm, 2008 – 2010  
Sonia Chib, Bhavani Thuraisingham, Jyothsna Rachapalli, Latifur Khan  
Implemented geospatial proximity algorithms using Google maps for Blackbook users.

## **Open Source Software at the University of Texas at Dallas**

1. SCRUB tool  
<http://scrub-tcpdump.sourceforge.net/index.php>  
<http://sourceforge.net/projects/scrub-tcpdump/>
2. JENA Contributions, Very Large RDF Graphs  
<http://jena.sourceforge.net/contrib/contributions.html>  
<http://cs.utdallas.edu/semanticweb/jenaextension.html>

## **Tool Repositories developed and hosted at UTD**

Data Mining Tools

<http://dml.utdallas.edu/Mehedy/>

Semantic Web Tools

<http://cs.utdallas.edu/semanticweb/index.html>

Secure Cloud Repository

<http://cs.utdallas.edu/secure-cloud-repository/>

## WORK WITH UTD TECHNOLOGY TRANSFER OFFICE

### The University of Texas at Dallas

**Patent Application:** Systems and Methods for Detecting a Novel Data Class  
UTD-10-017 (Application Number 61/376,427)

### Intellectual Property Disclosures

<b>09-037</b>	Policy Management for Assured Information Sharing in a Coalition Environment	PI: Bhavani Thuraisingham Latifur Khan Murat Kantarcioglu
<b>10-017</b>	Classification and Novel Class Detection in Concept-Drifting Data Streams under Time Constraints	PI: Latifur Khan Mohammad Mehedy Masud (UTD post-doc) Bhavani Thuraisingham
<b>10-054</b>	Agglomerative Clustering Using Label Propagation for Location	PI: Latifur Khan S. Abrol B. Thuraisingham

### University Spin-Off Company

Dr. Khan has started a spin-off company with UTD titled: “**Knowledge and Security Analytics, LLC**” in August 2010. The company founder is Prof. Bhavani Thuraisingham and major shareholders are UTD, Dr. Latifur Khan, and Dr. Murat Kantarcioglu. This spinoff company will be a holding company from which they will apply for SBIR/STTR and also form multiple spin-off companies.