

Jimeng SUN

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http://www.dasfa.net/wiki/index.php?title=Jimeng_Sun

Summary

- Exceptional research capability and track record on data mining and databases
 - Strong background and practical skills on data warehouse design and development
 - Skilled at business intelligence solution and packages
 - Familiar with project management process and software development cycles
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Research interest

- Data mining theory: High-dimensional data analysis, Stream mining, Graph mining, Multi-way analysis (tensor mining), Relational learning
 - Data mining application: IT service monitoring, Social Network Analysis, Data visualization
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Education

Ph.D Degree in Computer Science, Carnegie Mellon University, Pittsburgh, PA, USA. Thesis title: "Incremental Pattern Discovery on Streams, Graphs and Tensors" Research adviser: Prof. Christos Faloutsos	2007
M.Sc. Degree in Computer Science Carnegie Mellon University, Pittsburgh, PA, USA.	2006
M.Sc. Degree in Computer Science, Hong Kong University of Science and Technology, Hong Kong Thesis title: "Analysis of predictive spatio-temporal queries" Research adviser: Prof. Dimitris Papadias	2003
B.Sc. Degree in Computer Science (minor in Mathematics), Hong Kong University of Science and Technology, Hong Kong	2002

Awards

- ICDM'08 Best Research Paper Award
 - KDD'08 Dissertation Award (runner-up)
 - SDM'07 Best Research Paper
 - HKUST Academic Achievement Awards
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Experiences

Oct 2007-present

IBM Thomas J. Watson Research Center, *Hawthorne, NY, USA*
Research Staff Member, Service Research

- Design and implement a distributed data warehouse that host IT delivery data and metrics for over thousands of accounts across the globe.

- Design data analytic techniques for IT service delivery data and metrics to optimize service processes.
- Research on enterprise social networks, visualization and recommendation.

Jun-Aug 2006

IBM Thomas J. Watson Research Center, Hawthorne, NY, USA

Research Intern, Software Tools and Techniques

- Developed techniques to summarize huge volume of monitoring streams
- Published 2 technical papers and filed two patents

Jun-Aug 2005

PricewaterhouseCoopers, Center for advanced research, San Jose, CA

Senior Research Associate

- Worked on data analysis of business transactional data

Developed techniques to summarize huge volume of financial streams

Jun-Aug 2004

PricewaterhouseCoopers, Center for advanced research, San Jose, CA

Senior Research Associate

- Worked on analytic tools for financial reporting and anomaly detection
- Developed visualization tool for financial data

Publications

Journals

1. Jimeng Sun, Charalampos E. Tsourakakis, Evan Hoke, Christos Faloutsos, Tina Eliassi-Rad: Two heads better than one: pattern discovery in time-evolving multi-aspect data. *Data Min. Knowl. Discov.* 17(1): 111-128 (2008) **(the best of PKDD'08)**
2. Jimeng Sun, Yinglian Xie, Hui Zhang, and Christos Faloutsos. Less is more: Sparse graph mining with compact matrix decomposition. *Stat. Anal. Data Min.*, 1(1):6–22, 2008.
3. Jimeng Sun, Dacheng Tao, Spiros Papadimitriou, Philip S. Yu, and Christos Faloutsos. Incremental tensor analysis: theory and applications. *ACM Transactions on Knowledge Discovery from Data*, 2008.
4. Jimeng Sun, Yufei Tao, Dimitris Papadias, and George Kollios. Spatio-temporal join selectivity. *Information Systems*, 31(8), 2006.
5. Evan Hoke, Jimeng Sun, John D. Strunk, Gregory R. Ganger, and Christos Faloutsos. Intemon: Continuous mining of sensor data in large-scale self-* infrastructures. *ACM SIGOPS Operating Systems Review*, 40(3), 2006.
6. Jimeng Sun, Huiming Qu, Deepayan Chakrabarti, and Christos Faloutsos. Relevance search and anomaly detection in bipartite graphs. *SIGKDD Explorations Special Issue on Link Mining*, 7:48–55, 2005.
7. Yufei Tao, Jimeng Sun, and Dimitris Papadias. Analysis of predictive spatio-temporal queries. *ACM Transactions on Database Systems*, 4(28), 2003.
8. Dimitris Papadias, Yufei Tao, Jun Zhang, Nikos Mamoulis, Qiongmao Shen, and Jimeng Sun. Indexing and retrieval of historical aggregate information about moving objects. *IEEE Data Engineering Bulletin*, 2(25):10–17, 2002.

Conferences

1. Yu-Ru Lin, Jimeng Sun, Paul Castro, Ravi Konuru, Hari Sundaram, and Aisling Kelliher. MetaFac: Community Discovery via Relational Hypergraph Factorization, in *Proc. KDD*, 2009

2. Jie Tang, Jimeng Sun, Chi Wang, and Zi Yang. Social Influence Analysis in Large-scale Networks, in Proc. KDD, 2009
3. Yu-Ru Lin, Jimeng Sun, Paul Castro, Ravi B. Konuru, Hari Sundaram, and Aisling Kelliher. Extracting community structure through relational hypergraphs. WWW 2009.
4. Jimeng Sun, Spiros Papadimitriou, Chingyung Lin, Nan Cao, Shixia Liu, and Weihong Qian. MultiVis: Content-based Social Network Exploration Through Multi-way Visual Analysis. in Proc. SIAM Data Mining conference, 2009.
5. Tamara G. Kolda and Jimeng Sun. Scalable Tensor Decompositions for Multi-aspect Data Mining. in Proc. IEEE International Conference on Data Mining (ICDM), 2008. **(Best Research Paper)**.
6. Jimeng Sun, Charalampos E. Tsourakakis, Evan Hoke, Christos Faloutsos, and Tina Eliassi-Rad. Two heads better than one: Pattern discovery in time-evolving multi-aspect data. In PKDD, 2008.
7. Spiros Papadimitriou, Jimeng Sun, Philip Yu, and Christos Faloutsos. Hierarchical, parameter-free community discovery. In PKDD, 2008.
8. Hanghang Tong, Spiros Papadimitriou, Jimeng Sun, Philip Yu, and Christos Faloutsos. Colibri: Fast mining of large static and dynamic graphs. In SIGKDD, 2008.
9. Huiming Qu, Jimeng Sun, and Hani Jamjoom. Scoop: Automated social recommendation in enterprise process management. In IEEE International Conference on Services Computing, 2008.
10. Jimeng Sun, Spiros Papadimitriou, Philip Yu, and Christos Faloutsos. Graphscope: Parameter-free mining of large time-evolving graphs. In Proceedings of the Twelfth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (SIGKDD), 2007.
11. Jimeng Sun, Yinglian Xie, Hui Zhang, and Christos Faloutsos. Less is more: Compact matrix decomposition for large sparse graphs. In Proceedings of the 2007 SIAM International Conference on Data Mining (SDM), 2007. **(Best Research Paper)**.
12. Feifei Li, Jimeng Sun, Spiros Papadimitriou, George Mihaila, and Ioana Stanoi. Hiding in the crowd: Privacy preservation on evolving streams through correlation tracking. In Proceedings of 23rd IEEE International Conference on Data Engineering (ICDE2007), 2007.
13. Xing Wei, Jimeng Sun, and Xuerui Wang. Dynamic mixture models for multiple time series. In Proceedings of the Seventeenth International Joint Conference on Artificial Intelligence (IJCAI), 2007.
14. Jimeng Sun, Spiros Papadimitriou, and Philip Yu. Window-based tensor analysis on high-dimensional and multi-aspect streams. In Proceedings of the International Conference on Data Mining (ICDM), 2006.
15. Spiros Papadimitriou, Jimeng Sun, and Philip Yu. Local correlation tracking in time series. In Proceedings of the International Conference on Data Mining (ICDM), 2006.
16. Jimeng Sun, Dacheng Tao, and Christos Faloutsos. Beyond streams and graphs: Dynamic tensor analysis. In Proceedings of the Twelfth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (SIGKDD), 2006.
17. Jimeng Sun, Spiros Papadimitriou, and Christos Faloutsos. Distributed pattern discovery in multiple streams. In Proceedings of the Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2006.
18. Jimeng Sun, Huiming Qu, Deepayan Chakrabarti, and Christos Faloutsos. Neighborhood formation and anomaly detection in bipartite graphs. In ICDM, pages 418–425, 2005.
19. Spiros Papadimitriou, Jimeng Sun, and Christos Faloutsos. Streaming pattern discovery in multiple time-series. In VLDB, pages 697–708, 2005.

20. Jimeng Sun, Dimitris Papadias, Yufei Tao, and Bin Liu. Querying about the past, the present and the future in spatio-temporal databases. In IEEE International Conference on Data Engineering (ICDE), 2004.
21. Yufei Tao, Dimitris Papadias, and Jimeng Sun. The TPR*-tree: An optimized spatio-temporal access method. In Proceedings of the Very Large Data Bases Conference (VLDB), 2003.
22. Yufei Tao, Jimeng Sun, and Dimitris Papadias. Selectivity estimation for predictive spatio-temporal queries. In Proceedings of the IEEE International Conference on Data Engineering (ICDE), 2003.

Demonstrations

1. Ching-Yung Lin, Nan Cao, Shixia Liu, Spiros Papadimitriou, Jimeng Sun, and Xifeng Yan. SmallBlue: Social Network Analysis for Expertise Search and Collective Intelligence. ICDE 2009
2. Evan Hoke, Jimeng Sun, and Christos Faloutsos. Intemon: Intelligent system monitoring on large clusters. In Proceedings of the Very Large Data Bases Conference (VLDB), 2006.
3. Jimeng Sun, Spiros Papadimitriou, and Christos Faloutsos. Online latent variable detection in sensor networks. In Proceedings of the IEEE International Conference on Data Engineering (ICDE), 2005.

Teaching experience

<i>Fall 2006</i>	Teaching Assistant, 15-415 Database Applications, Carnegie Mellon University, Computer Science, Department. Instructor: Christos Faloutsos
<i>Fall 2005</i>	Teaching Assistant, 15-781 Machine Learning, Carnegie Mellon University, Computer Science, Department. Instructor: Tom Mitchell and Andrew Moore

Professional activities and services

Program committees

1. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD'10)
2. Senior PC member at SIAM International Conference on Data Mining (SDM'10)
3. IEEE International Conference on Data Mining (ICDM'09)
4. ACM Conference on Information and Knowledge Management (CIKM'09)
5. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD'09)
6. ACM Conference on Information and Knowledge Management (CIKM'08)
7. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD'08)
8. SIAM International Conference on Data Mining (SDM'08)
9. ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD'07)

Professional members

1. ACM
2. IEEE

Selected Talks

- Tutorial on “Large-scale Data Mining: Map-Reduce and Beyond ” with Spiros Papadimitriou and Rong Yan

- ICDM, Dec 2009
- Tutorial on “Mining Large Time-Evolving Graphs Using Matrix and Tensor Tools” with Christos Faloutsos and Tammy Kolda
 - SDM, Apr 2007
 - SIGMOD, Jun 2007
 - ICML, Jun 2007
 - KDD, Aug 2007
- Apr 10 2008, Computer Science Department at RPI, “Thinking Sparsely: Scalable Tensor Decompositions for Multi-aspect Data Mining”
- Aug 2007, KDD Conference at San Jose, CA, “GraphScope: Parameter-Free Mining of Large Time-Evolving Graphs”
- Apr 2007, SDM Conference at Minneapolis, Minnesota, “Less is More: Compact Matrix Decomposition for Large Sparse Graphs”,
- “Incremental Pattern Discovery on Streams, Graphs, and Tensors”
 - Mar 22 2007, Texas A&M University,
 - Mar 19 2007, AT&T research lab,
 - Mar 16 2007, University of Pittsburgh,
 - Mar 9 2007, Singapore Management University
 - Mar 2 2007, Pennsylvania State University,
 - Feb 26 2007, IBM TJ Watson research lab,
- Dec 2006, ICDM Conference at Hong Kong, “Window-based Tensor Analysis on High-dimensional and Multi-aspect Streams”
- Aug 2006, KDD Conference at Philadelphia, PA, “Beyond Streams and Graphs: Dynamic Tensor Analysis”
- Apr 2006, PAKDD Conference at Singapore, “Distributed Pattern Discovery in Multiple Streams”
- Nov 2005, ICDM Conference at Houston, TX, “Neighborhood Formation and Anomaly Detection in Bipartite Graphs”
- Mar 2004, ICDE Conference at Boston, MA, “Querying about the Past, the Present and the Future in Spatio-Temporal Databases”