

SHASHI SHEKHAR

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Shashi Shekhar is currently a Distinguished McKnight University Professor of Computer Science at the University of Minnesota, Minneapolis. He received the IEEE-CS *Technical Achievement Award* (2006) and was elected an *IEEE fellow* (2003) as well as an *AAAS Fellow* (2008) for contributions to spatial database storage methods, data mining, and geographic information systems (GIS). He co-edited an *Encyclopedia of GIS* (Springer, 2008, isbn 978-0-387-30858-6), and co-authored a textbook on Spatial Databases (Prentice Hall, 2003, isbn 0-13-017480-7) as well as more than 250 research papers in peer-reviewed journals, books, conferences, and workshops. He is a co-Editor-in-Chief of *Geo-Informatica: An International Journal on Advances in Computer Science for GIS* and general co-chair for the Symposium on Spatial and Temporal Databases (2011). He served on the Mapping Sciences Committee (2003–2009) of the National Academy National Research Council, the Board of Directors of University Consortium of UCGIS (2003-2004), the editorial boards of IEEE Trans. on Knowledge and Data Engineering and the IEEE-CS Computer Science & Eng. Practice Board. He also served as a co-chair of the IEEE ICDM *Workshop on Spatial and Spatio-temporal Data Mining* (2007–2010), and ACM Intl. Conference on Advances in Geographic Information Systems (1996). Recent research accomplishments include co-location patterns for mining spatial databases, and scalable routing algorithms for evacuation planning. Earlier his group developed CCAM, one of the most efficient storage methods for large road maps and scalable algorithms for computing shortest paths. More details at <http://www.cs.umn.edu/~shekhar>.

Professional Preparation:

- 1990 Ph.D., Computer Science, University of California, Berkley
- 1989 M.S., Business Administration, University of California, Berkeley
- 1987 M.S., Computer Science, University of California, Berkley
- 1985 B.S., Computer Science, Indian Inst. of Tech., Kanpur, India

Appointments:

- 2005– Distinguished Univ. Professor, Univ. of Minnesota, Minneapolis, MN
- 2001– Professor, University of Minnesota, Minneapolis, MN
- 1995–2000 Assoc. Professor, University of Minnesota, Minneapolis, MN
- 1989–1995 Asst. Professor, University of Minnesota, Minneapolis, MN

Research Interests:

Data and knowledge engineering, spatial database management, spatial data mining, and geographic information systems.

Related Publications:

- Contributors of Volunteered Geographic World: Motivation behind Contribution, w/ R. Tewari, A. Agarwal. Workshop on Role of Volunteered Geographic Information in Advancing Science, Intl. Conference on Geographic Information Science, 2010.
- Evacuation Planning: A Spatial Network Database Approach, w/ X. Zhou et al. *IEEE Data Eng. Bulletin* (Special Issue on Spatio-temporal databases), 33(2): 26–31 (2010).

Contraflow Transportation Network Reconfiguration for Evacuation Route Planning, w/ S. Kim, M. Min. *IEEE Transactions on Knowledge and Data Eng.*, 20(8), 2008.

Capacity Constrained Routing Algorithms for Evacuation Planning: A Summary of Results, w/ Q. Lu et al. *Symp. Spatial and Temporal Databases*, Springer 3633, 2005.

Navigation Systems: A Spatial Database Perspective, w/ R. Vatsavai, et al. Chapter 3 in *Location Based Services*, Ed. J. Schiller, A. Voisard. Morgan Kaufmann, 2004, ISBN 1-55860-929-6.

Additional Publications:

Encyclopedia of GIS, Co-Ed. with H. Xiong. Springer, 2008, isbn 978-0-387-30858-6.

A Tour of Spatial Databases, w/ S. Chawla. Prentice Hall, 2003, isbn 013-017480-7.

Spatial Databases: Accomplishments and Research Needs, w/ S. Chawla et al. *IEEE Transactions on Knowledge and Data Eng.*, 11(1), January 1999.

Spatial and Spatio-temporal Data Mining: Recent Advances, w/ R. Vatsavai, M. Celik, in *Next Generation of Data Mining (NGDM)*, Ed. H. Kargupta, J. Han, P. Yu, R. Motwani, V. Kumar. CRC Press, 2008. Proc. 2007 NSF Workshop on NGDM.

Discovering Spatial Co-location Patterns from Spatial Datasets: A General Approach, *IEEE Transactions on Knowledge and Data Eng.*, 16(12), Dec. 2004 (A summary appeared in the Seventh Int'l Symposium on Spatial and Temporal Databases, 2001).

Synergistic Activities:

Invited speaker on spatial computing and spatial data mining at many forums, e.g. ESRI Space-Time Modeling Workshop (2010), IBM T.J. Smarter Planet summit (2009), IEEE ICDM Workshop on Spatio-temporal Data Mining (2006), Intl. Symp. on Spatial and Temporal Databases (2005), ISPRS Intl. Symp. on Spatial Data Mining (2005), Intl. Conf. on Geo. Info. Sc. (2004), and SAS data mining conf. (2003);

AAAS Fellow, IEEE-CS Fellow, IEEE Technical Achievement Award, Member of the Mapping Science Committee (National Academies NRC, 2003–2009) and Board of Directors of University Consortium of Geographic Information Systems (UCGIS) for 2003–2004;

Active participation in broadening the participation of groups underrepresented in science via supervising over two dozen undergraduate (UG) students from historically black colleges in Army High Performance Computing Research Center annual summer workshops (1997–2006), NSF Research Experience for UGs, and UG Research Opportunity Program (UROP).