

**Curriculum Vitae**  
**Of**  
**Sharma Chakravarthy**

## Sharma Chakravarthy

Professor  
Computer Science and Engineering Department  
and

Founder:  
Information Technology Laboratory (ITLab), and  
Distributed and Parallel Computing Cluster (DPCC)

The University of Texas at Arlington  
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### Address

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**Personal** U. S. Citizen, Married, 1 Child

### Education

- 1985 Ph.D., Computer Science, **University of Maryland, College Park**  
Thesis: *Semantic Query Optimization in Deductive Databases*  
Advisor: Prof. **Jack Minker**
- 1981 M.S., Computer Science, **University of Maryland, College Park**
- 1975 Technical Master's Degree (M.Tech), Communications, Control, and Computer Science, **Indian Institute of Technology, Bombay, India**
- 1973 B.E., Electrical Technology, **Indian Institute of Science, Bangalore, India**
- 1970 B.Sc., Bachelor's Degree in Science, Bangalore University,

India

## Research Interests

Primarily interested in research leading to the development of enabling technologies for Database and Information Systems for supporting emerging applications. Specifically interested in: stream/sensor data processing, active capability, mining/knowledge discovery (conventional, graph, and text), web technologies, data warehouses, and information security. Grid computing and the use of parallel processing techniques are also of interest.

## Experience

1/2000 - **The University of Texas at Arlington, Arlington, Texas**  
present Computer Science and Engineering Department  
**Professor**

- Established a Distributed and parallel Computing Cluster (DPCC@UTA) in Fall 2002 to serve as a catalyst for inter-departmental and inter-institutional collaborative research in the Metroplex. A 193 processor cluster and 72 TB of storage facility are operational as of Fall 2003. Three 8 node SMP systems each with 32Gbytes of memory are operational from Fall 2004.
- Established the Information Technology Laboratory (ITLab@cse.uta) in Spring 2000 to showcase the Research and development activity of the database group at UTA. Working on establishing interactions with the local industry for projects and technology transfer.
- Developed an Advanced Topics in Database Systems course covering Active Technology, Data warehousing and Data mining. Established hands-on projects in the above topics.
- Developed a graduate database course (Database Systems II) with an emphasis on systems and implementation aspects of database management systems.

8/89-12/2000 **University of Florida, Gainesville, Florida**  
Computer and Information Science and Engineering Department  
**Associate Professor**

- Established interdisciplinary collaboration with: Profs. Drummond, Maria, and Luttge (College of medicine and UF Brain Institute), Prof. A. Kolaskar BioInformatics and CDAC Poon, India), Profs. S. Tufekci and S. Yeralan (Industrial Systems Engineering), Prof. J. Alexander (Department of Urban and Regional Planning).
- Introduced the graduate course CIS 6124 (Database theory)

for the first time at UF in Spring 1990. Offered once a year since then.

- Introduced the undergraduate course CGS 4545 (Database design and applications for non-majors) for the first time at UF in Spring 1992. Offered once a year since then.
- Revised the contents of the graduate course CIS 6125 (Distributed Database Systems) and brought its coverage up-to-date in Spring 1991. An implementation project was designed for the course. Offered once a year.
- Taught CIS 6124 on FEEDS (Florida Engineering Education Delivery System) in Spring 1990 and CIS 6125 on NTU (National Technical University) in Spring 1993.
- Upgraded the database center lab using \$20,000 National Science Foundation equipment grant obtained in 1990.
- Introduced the graduate course CIS 6122 (Knowledge Base Systems) in 1993. Has been approved by the CIS Department.
- Introduced CIS 6124 and CIS 6125 into the National Technical University's list of courses offered.
- Departmental liaison with the College of Business Administration.
- Funding sources: NSF, Texas Instruments, Raytheon TI Systems, US West, Sofrevia, Navy, Air Force, ONR, and NRL.
- Established two University level cooperative agreements with: i) University of Poona, India and ii) University of Skovde, Sweden.

9/85-8/89 **Xerox Corporation Advanced Information Technology Group, Cambridge, MA**

**Member of Technical Staff**

HiPAC Project Manager (From 1/89 to 8/89). HiPAC is a research project on active, time-constrained data management. It incorporates rules as first-class objects, a flexible execution model for evaluating rules with respect to transactions, and techniques for evaluating rules efficiently. Developed architecture for the rule management and evaluation subsystem that manages rules efficiently and optimizes their evaluation. Also, developed several techniques for evaluating situation-action rules efficiently. Several proof-of-principle systems were implemented to demonstrate research results obtained in HiPAC.

8/85-8/88 **Computer Corporation of America, Cambridge, MA**

Advanced Information Technology Division  
**Computer Scientist**

Acted as a technical marketing liaison with various federal

sponsors, such as RADC, DARPA, and AFOSR. Familiar with contracts and proposal negotiations with federal agencies.

VSDS Project Manager. The short-term objective of the VSDS (Verifiable Secure Distributed Systems) project was to develop a workbench to facilitate the verification of transactions in secure databases. Developed a uniform framework for integrating security and integrity constraints to facilitate their enforcement and verification.

SAM Manager. Designed, and implemented an active, object oriented DBMS incorporating active objects for expressing triggers, alerter, and situation action rules on Symbolics using Common LISP and Flavors. Polling and active condition monitoring were compared and their performance analyzed.

PROBE Investigator. PROBE is an object-oriented, extensible DBMS aimed at non-traditional applications. It incorporates temporal and spatial data types as well as recursion as an integral part of the system. Participated in the research on recursion and the breadboard implementation of PROBE. Designed and implemented several traversal recursion algorithms for the PROBE breadboard.

PV Investigator. Major contributor to the Program Visualization (PV) project aimed at developing an object-oriented information model for supporting software engineering methodologies and structured documents including sophisticated graphics interface.

Miscellany Investigated the suitability of multiprocessor architectures for high-performance DBMSs. Investigated query processing techniques for complex objects. Investigated real-time and time-constrained processing issues for database management systems. Played a significant role in developing seven proposals over a period of four years.

1/81-7/85 **University of Maryland, College Park**  
Computer Science Department  
**Research Assistant, Instructor**

Conducted research in the areas of databases, logic databases, parallel processing, and expert systems. Participated in the design and implementation of the PRISM system on a network of 256 Z80A processors, and in the design of DAVID (Distributed Access View Integrated Database).

1/79-12/80 **University of Maryland, College Park**  
Computer Science Department

### **Graduate Teaching Assistant**

Taught several Computer Science courses including Database Design, Data Structures and File Processing.

6/75-12/78 **Tata Institute of Fundamental Research (TIFR)**  
Computer Science Group  
**Scientific Officer**

Pursued research in the areas of picture processing and pattern recognition; Designed and developed a general purpose graphics systems (SIGN).

### **Honors**

- On the **Advisory Board** of EnigmaTec, London, UK, 2002-
- Consultant to MCC 1998-2000
- Consultant to RTI Inc. 1999-2000.
- Listed in Who's Who in Sciences Higher Education, 2004
- Listed in Who's Who among Asian Americans, 1994
- Listed in Who's Who among American Teachers, 1995
- Listed in Who's Who in the South and Southwest, 1995

### **Awards**

- **Research Excellence award, 2005.** Department level
- **Outstanding research achievement, 2003.** University level
- **Senior faculty research award, 2002.** Department level
- Awarded National merit Scholarship for pursuing advanced degree, 1979
- Awarded Commonwealth Scholarship for pursuing advanced degree, 1979
- Second prize for term paper presentation, B.E., 1973
- Represented the college in the National Science Talent Contest, 1970
- Second rank in statewide Eleventh standard Examination, 1967

### **Visiting Positions**

Sep-Dec 2004 Visited IBM India research Lab (as part of sabbatical) for 4 months

August 2004 Visited IIT Bombay for 3 days

July 2004 Visited Persistent Systems Private Limited (PSPL) for a month as a Technology consultant.

Jul 2000 Visiting Collaborator at NCST, Bangalore, India

Jun/Jul 00 Visiting Professor at the University of Skovde, Sweden.

Jun/Jul 99 Visiting Professor at the University of Skovde, Sweden.

Mar 1997 Visiting Fellow at JAIST (Japan Advanced Institute of Science and Technology, Hokuriku, Japan.

May/Aug 98 Visiting Professor at the University of Skovde, Sweden.

May/Aug 97 Visiting Professor at the University of Skovde, Sweden.

CV: Sharma Chakravarthy

May/Aug 96 Visiting Professor at the University of Skovde, Sweden.  
 Jun/Jul 95 Visiting Scientist at the Institut National de  
 Recherche en Informatique et Automatique (INRIA), Paris,  
 France.  
 May 1995 Visiting Professor at the University of Skovde, Sweden.

<b>Funded Grants<sup>1</sup> (Total exceeds 11.5 Million USD)</b>					
<i>Project</i>	<i>Agency</i>	<i>Amt in \$</i>	<i>Role</i>	<i>From</i>	<i>To</i>
Graph-Based Structural Pattern Learning," U.S. Air Force Evidence Assessment, Grouping, Linking and Evaluation (EAGLE) Program	Air Force	377,516	Researcher	1/2004	12/2005
Southwest Tier 2 CyberInfrastructure for ATLAS Agency:NSF Duration: 60 months	NSF	Approx. 1M	Senior Researcher	9/2005	8/2010
Acquisition of Instrumentation for Engineering Research in Advanced Security Detection Systems," NSF Major Research Instrumentation (MRI) Program	NSF	357,143	Senior Personnel	9/2004	8/2007
ITR Collaborative Research: Pervasively Secure Infrastructure (PSI): Integrating Smart sensing, data mining, pervasive networking and community computing	NSF	1,600,000	Researcher	9/2003	8/2008
Facilitating Intelligent Sharing of Information for Decision Making over Distributed, Heterogeneous, Network-Centric Environments	NAVY/AF	59,999	PI	6/2002	6/2003
MRI 2002	NSF (EIA)	1,357,143	PI	9/2002	8/2005

<sup>1</sup> This table does **not** include grants obtained by Chakravarthy in previous positions held at CCA and XAIT as researcher, PI, and Project Manager totaling more than \$5 Million.

CV: Sharma Chakravarthy

MavHome	NSF	1,160,000	Co-PI	9/2001	8/2004
Graph-based Data Mining	NSF	442,487	Co-PI	9/2001	8/2004
Selective Just-in-time information propagation in large network-centric environments	NSF	240,000	PI	9/2001	9/2005
IDM 2001 workshop	NSF	180,000	PI	3/2001	2/2002
Services for Intelligent sharing of information over distributed heterogeneous network-centric environments	NAVY/AF	50,000	PI	6/2001	3/2002
Knowledge Integration for Intelligent Extraction in Supporting Network Centric C4I	NAVY/AF	65,000	PI	6/2000	2/2001
Knowledge Integration	NAVY/Air Force	65,000	PI	6/2000	3/2001
Java-based Active Capability	NAVY/Air Force	60,000	PI	9/1998	8/1999
DBMS Software	Oracle	2,300,000	PI	4/1998	3/2001
Distributed Reactive Agents	RTIS	100,000	PI	5/1998	4/1999
Genoa - CrisisBrief	DARPA	12,000	PI	1/1997	4/1998
Agent Architecture for Active DB	NAVY/Air Force	75,000	PI	5/1997	5/1998
Active functionality into JFACC	DARPA/BBN	500,000	PI	1/1997	12/2000
Active DB Collaboration	Air Force	95,000	PI	8/1996	3/1997
Advanced Transactions	NSF	210,000	PI	5/1996	4/1999
Active DB Collaboration	Air Force	85,000	PI	8/1995	8/1996
OO GIS Database	NRL	325,082	Researcher	10/1994	10/1995
Active Databases	Navy	55,000	PI	7/1994	6/1995
Constraint Management II	Navy	50,000	PI	7/1993	5/1994
Cooperation among applications	Sofrevia	10,000	PI	2/1993	8/1994
CISE Infrastructure Grant	NSF	1,500,000	Researcher	3/1992	2/1998
Constraint Management I	Navy	32,999	PI	3/1992	6/1993
Federated information systems	US West	98,305	PI	9/1990	5/1992

Query optimization in OODBMS	TI	20,000	PI	1/1991	6/1991
Distributed active databases	NSF	66,441	PI	8/1990	7/1993
Active databases	FHTIC	40,000	PI	1/1991	12/1992
Active databases	FHTIC	30,000	PI	1/1990	1/1992
Abbreviations Used					
NSF	National Science Foundation				
FHTIC	Florida High technology Industry Council				
Sofrevia	An Aerospace Company in Paris, France				
Navy	SPAWAR, San Diego, CA				
AF	Air Force, USA (Rome Laboratories)				
TI	Texas Instruments, Dallas				
US West	Telecommunications Company, Denver, Colorado.				
NRL	Naval Research Laboratory				
DARPA	Defense Advanced Research Projects Agency				
BBN	Bolt, Beranek, and Newmann, Inc. (Is now part of GTE)				
RTIS	Raytheon TI Systems				

**Edited Books, Book Chapters**

- 10 Jyoti Jacob, Anoop Sanka, Naveen Pandrangi, and Sharma Chakravarthy, "WebVigil: An approach to Just-In-Time Information Propagation In Large Network-Centric Environments", Book Chapter (pp. 301-319) in Web Dynamics (Mark Levene, Alexandra Poulouvasilis (Eds.)), Springer, Heidelberg, 2004, ISBN# 3-540-40676-X, 476 pages, May 2004.
- 9 S. Chakravarthy and D. Cook, "2001 NSF Information and Data Management Workshop Proceedings, April/May 2001, 412 pages
- 8 A. Abbadi, M. Brodie, S. Chakravarthy, et al., "Proc. Of the 26<sup>th</sup> International Conf. On Very Large Databases", 740 pages, September 2000.
- 7 S. Chakravarthy, S. Tufekci, and R. Honnavalli, "Flexible Manufacturing Simulation: Using an Active DBMS'' in Cooperative Knowledge Processing for Engineering Design, Eds. Jacucci, Chapman and Hill Publishers, 1998.
- 6 E. Anwar, S. Chakravarthy, M. Viveros, "An Extensible Approach to Realizing Advanced Transaction Models'', in Advanced Transaction Models and Architectures, Eds. Sushil Jajodia and Larry Kerschberg, 1997.

- 5 U. Dayal, A. Buchmann, and S. Chakravarthy, "HiPAC -- An Active, Object-Oriented Database System'", in Active Database Systems -- Triggers and Rules for Advanced Database Processing, U. Dayal and J. Widom (Eds.), Morgan Kaufmann Publications, pp. 177-206, 1996.
- 4 P. Sadanandan and S. Chakravarthy (Eds.), "Advances in Data Management '94'", Tata McGraw Hill Publications, 1994, 400 pages.
- 3 J. Widom and S. Chakravarthy (Eds.), "Proceedings of the Fourth International Workshop on Research Issues in Data Engineering: Active Database Systems (RIDE-ADS 94)''", IEEE Computer Society Press, February 1994, 180 Pages.
- 2 S. Chakravarthy, "Active Database Management Systems: Requirements, State-Of-The-Art, and an Evaluation'", in Entity-Relationship Approach: The Core of Conceptual Modeling, (Ed. H. Kangassalo), Elsevier Science Publishers, North-Holland, pp.461-473, 1991.
- 1 U. Dayal, F. Manola, A. Buchmann, S. Chakravarthy, and S. Heiler, "Simplifying Complex Objects: The PROBE Approach to Modeling and Querying Them'", in Readings in Object-Oriented Databases, S. Zdonik and D. Maier (Eds.), Morgan Kaufman Publishers, Inc., San Mateo, California, pp. 390-399, 1989.

### Refereed Journal papers

- 31 M. Aery and S. Chakravarthy, "InfoSift: Adapting Graph Mining Techniques for Document Classification", under preparation.
- 30 Q. Jiang and S. Chakravarthy, "Load Shedding Strategies for trading off latency with accuracy", Under review
- 29 L. Elkalifa, R. Adaikkalavan, and S. Chakravarthy, "InfoFilter: Expressive Pattern Specification and Detection Over Text Streams", under review
- 28 Q. Jiang and S. Chakravarthy, "Modeling of Continuous Queries over Stream Data for Capacity Planning", under review
- 27 Q. Jiang and S. Chakravarthy, "Scheduling Strategies for Processing Continuous Queries Over Streams", under review
- 26 H. Kona and S. Chakravarthy, "An SQL-based Approach to Incremental Association Rule Mining", To appear in the special issue of the Foundations of Computing and Decision Sciences journal, 2006.
- 25 A. Srinivasan and S. Chakravarthy, "Discovery of Significant Intervals in Time-Series Data", To appear in the special issue of the Foundations of Computing and Decision Sciences journal, 2006.
- 24 R. Adaikkalavan and S. Chakravarthy, "Active Authorization Rules for Enforcing Role-Based Access Control and its Extensions", To appear in the special issue of International Journal of Computer Systems Science and Engineering.
- 23 A. Sanka, S. Chamakura and S. Chakravarthy, A Dataflow Approach To Efficient Change Detection of HTML/XML Documents in WebVigil, To appear in Computer Networks Journal, 2005.

- 22 R. Adaikkalavan and Sharma Chakravarthy, "SnoopIB: Interval-Based Event Specification and Detection for Active Databases", To appear in Knowledge and Data Engineering (DKE), 2005.
- 21 Jyoti Jacob, Alpa Sachde, and Sharma chakravarthy, "CX-Diff: a change detection algorithm for XML content and change visualization for WebVigiL", in DKE (Data and Knowledge Engineering), 2005.
- 20 Sharma Chakravarthy, [Y. Alp Aslandogan](#), [Ramez Elmasri](#), [Leonidas Fegaras](#), [Jung-Hwan Oh](#): Database Research at UT Arlington. [SIGMOD Record 32](#)(1): 73-80 (2003)
- 19 D. Hong, S. Chakravarthy, and T. Johnson, "Incorporating Load Factor into the Scheduling of Soft Real-Time Transactions for Main Memory Databases'', in Information Systems, Vol. 25, No. 4, pp. 309-322, 2000.
- 18 Y. Sagin, O. Oulusoy, and S. Chakravarthy, "Concurrent Rule Execution in Active Database Systems'', in Information Systems, Vol. 23, No. 1, pp. 39-64, 1998.
- 17 S. Chakravarthy, D. Hong, and T. Johnson, "Real-Time Transaction Scheduling: A Framework for Synthesizing Static and Dynamic Factors'', in Real Time Systems Journal, Vol. 14, No. 1, Pages 135-170, 1998.
- 16 M. Berndtsson, S. Chakravarthy, and B. Lings, "Extending Database Support for Coordinating Among Agents'', in Special Issue of International Journal of Cooperative Information Systems (IJCIS), Vol. 6, Nos. 3 & 4, Pages 315-339, 1997.
- 15 S. Chakravarthy, "Architectures and Monitoring Techniques for Active Databases: An Evaluation'', in Data and Knowledge Engineering, Vol. 16, pp. 1-26, 1995.
- 14 S. Chakravarthy, "Early Active Databases: A Capsule Summary'', in IEEE Trans. on Knowledge and Data Engineering, Vol. 7, No. 6, pp. 1008-1011, 1995.
- 13 S. Chakravarthy and D. Mishra, "Snoop: An Expressive Event Specification Language for Active databases'', in Knowledge and Data Engineering Journal, Vol. 14, pp. 1-26, 1994.
- 12 S. Chakravarthy, E. Anwar, L. Maugis, and D.Mishra, "Design of Sentinel: An Object-Oriented DBMS with Event-Based Rules'', in Information and Software Technology, Vol.36, No. 9, pp. 555-568, September 1994.
- 11 S. Chakravarthy and S-K. Kim, "Resolution of Time Concepts in Temporal Databases'', in Information Sciences, Vol. 80, No. 1-2, pp. 91-125, September 1994.

- 10 S.K. Kim and S. Chakravarthy, " Temporal Databases with Two-Dimensional Time: Its Interpretation and Implementation '", in Information Sciences, Vol. 80, No. 1-2, pp. 43-89, September 1994.
- 9 S. Chakravarthy, W-K. Whang, and S. B. Navathe, "Logic-Based Approach to Query Processing in Federated Databases'", in Information Sciences, Vol. 79, No. 1-2, pp. 1-28, July 1994.
- 8 S. Chakravarthy, J. Muthuraj, R. Varadarajan, and S.B. Navathe, "An Objective Function for Vertically Partitioning Relations in Distributed Databases and its Analysis'", In Distributed and Parallel Databases Journal, Vol. 2, No. 3, pp. 183-207, March 1994.
- 7 W. K. Whang, S. Chakravarthy and S. B. Navathe, "Relational Schema Integration: Dealing with Inter relational Correspondences and Querying over Component Schemas'" in Computing Systems, Special Issue on Heterogeneous Database Systems, Vol. 6, pp. 319-352, Summer 1993.
- 6 S. Chakravarthy, K. Karlapalem, S. B. Navathe, and A. Tanaka, "Database Supported Cooperative Problem Solving'", In International Journal of Intelligent and Cooperative Information Systems. Vol. 2, No. 3, pp. 249-287, November 1993.
- 5 S. B. Navathe, A. Tanaka, and S. Chakravarthy, "Active Database Modeling and Design Tools: Issues, Approach, and Architecture'", in IEEE Data Engineering Bulletin, Vol 15, No.1-4, pp. 6-9, December 1992.
- 4 S. Chakravarthy, J. Grant, and J. Minker, "Logic-Based Approach to Semantic Query Optimization''; In ACM Transactions on database Systems, Vol 15, No. 2, pp. 162-207, June 90.
- 3 S. Chakravarthy and J. Minker, "Processing Multiple Queries in Database Systems,' ' IEEE Database Engineering, Vol. 5, No.3, pp. 38-44, 1982.
- 2 P. V. Shankar and S. Chakravarthy, "A Parallel Procedure for the Detection of Dominant Points on a Digital Curve,'" Computer Graphics and Image Processing, Vol. 8, pp. 403-412, 1978.
- 1 P. V. Shankar, S. Chakravarthy, and R. Narasimhan, "Computing Organizations and Shapes of 2-D Dot Patterns: A Perceptual Level Approach,'" Computer Graphics and Image Processing, Vol.8, pp. 203-218, 1978.

### **Refereed Conference Papers**

- 92 A. Srinivasan, D. Bhatia, and S. Chakravarthy, "Discovery of Interesting episodes in Sequence Data", To appear in the Proc. of the 21st ACM Symposium on Applied Computing, Data Mining Track, France, April 2006.
- 91 M. Aery and S. Chakravarthy, "eMailSift: Email Classification Based on Structure and Content", in the Proc. of ICDM (international Conference on Data Mining), Houston, Nov 2005.
- 90 A. Srinivasan, S. Sreshta, and S. Chakravarthy, "Discovery of Significant Intervals in Sequential Data", in the Proc. of 1<sup>st</sup> ADBIS Workshop on Data Mining and Knowledge Discovery, Tallinn, Estonia, September 2005, pp. 87-98.
- 89 H. Kona, S. Chakravarthy, and A. Arora, "SQL-Based Approach to Incremental Association Rule Mining", in the Proc. of 1<sup>st</sup> ADBIS Workshop on Data Mining and Knowledge Discovery, Tallinn, Estonia, September 2005, pp. 11-24
- 88 Rohit Lotlikar, Ranga Vatsavai, Mukesh Mohania, and Sharma Chakravarthy, Policy schedule advisor for Performance Management, in the proc. Of IEEE International Conference on Autonomic Computing (ICAC), Stockholm, Sweden, June 2005.
- 87 Rohit Lotlikar, Sharma Chakravarthy, Ranga Vatsavai, and Mukesh Mohania, Analyzing Policy Dependencies Using Historical Information, in Proc. of IEEE Workshop on Policy for Distributed Systems and Networks, Sweden, June 2005
- 86 Manu Aery and Sharma Chakravarthy: InfoSift: Adapting Graph Mining Techniques for Text Classification. in Proc. of the 18<sup>th</sup> [International FLAIRS Conference](#), May 16-18, 2005, FL
- 85 Shraavan Chamakura, Alpa Sachde, Sharma Chakravarthy, and Akshay Arora, Monitoring Multiple Web Pages and Presentation of XML Pages, in the Proc. of XSDM (XML schema and data management) workshop, In conjunction with The 21st IEEE International Conference on Data Engineering (ICDE), April 8-9, 2005, Tokyo, Japan.
- 84 Raman Adaikkalavan, and Sharma Chakravarthy: Active Authorization Rules for Enforcing Role-Based Access Control and its Extensions, (to appear) in Proc. of [International Workshop on Privacy Data Management](#), In conjunction with The 21st IEEE International Conference on Data Engineering (ICDE), April 8-9, 2005, Tokyo, Japan.
- 83 Qingchun Jiang, Raman Adaikkalavan and Sharma Chakravarthy, NFM<sup>i</sup>: An Inter-domain Network Fault Management System, in Proc. of the 21st IEEE [International Conference on Data Engineering \(ICDE: Industrial\)](#), April 2005.
- 82 Raman Adaikkalavan and Sharma Chakravarthy, SmartGate: A Smart Push-Pull Approach to Support Role-Based Security in Web Gateways. (to appear) in Proc. of the 20th [ACM Symposium on Applied Computing \(SAC: WTA\)](#), March 2005.
- 81 Laali Elkhalfifa, Raman Adaikkalavan, and Sharma Chakravarthy, InfoFilter: A System for Expressive Pattern Specification and Detection Over Text Streams. (to appear) in Proc. of the 20th [ACM Symposium on Applied Computing \(SAC: IAR\)](#), March 2005.
- 80 Raman Adaikkalavan and Sharma Chakravarthy: Formalization and Detection of Events Using Interval-Based Semantics, 11th International [Conference on Management of Data \(COMAD 2005\)](#), January 2005

- 79 [Sharma Chakravarthy and Nishant Vontella: A Publish/Subscribe Based Architecture of an Alert Server to Support Prioritized and Persistent Alerts](#), 1st International Conference on Distributed Computing & Internet Technology (ICDCIT 2004)
- 78 Ajay Kumar Eppili, Jyoti Jacob, Alpa Sachde, Sharma Chakravarthy: Expressive Profile Specification and its Semantics for a web monitoring system, 23rd International Conference on Conceptual Modeling (ER2004) Shanghai, China
- 77 Raman Adaikkalavan and Sharma Chakravarthy, Formalization and Detection of Events Over a Sliding Window in Active Databases Using Interval-Based Semantics [ADBIS 2004](#), Budapest, Hungary
- 76 Q. Jiang and Sharma Chakravarthy, Scheduling Strategies for Processing Continuous Queries Over Streams, In BNCOD, Edinburgh, July 2004.
- 75 [Manu Aery and Sharma Chakravarthy: eMailSift: Mining-based Approaches To Email Classification](#), (poster paper) [SIGIR 2004](#) Conference, July 2004.
- 74 Raman Adaikkalavan, Sharma Chakravarthy, Raymond Liuzzi, and Leah Wong: Information Security: Using a Novel Event-Based Approach, International Conference on Information and Knowledge Engineering ([IKE'04](#)), June 2004
- 73 Anoop Sanka, Shravan Chamakura, and Sharma Chakravarthy, "A Dataflow Approach To Efficient Detection of Changes to HTML/XML Documents in WebVigil", in WebDynamics Workshop (associated with WWW 2004), New York, May 2004
- 72 Ambika Srinivasan and Sharma Chakravarthy, Discovery of Interesting Episodes in Sequence Data, PAKDD Workshops, May 2004
- 71 Sharma Chakravarthy, Ramji Beera, and Ram Balachandran, DB-Subdue: Database Approach to Graph Mining, In PAKDD conference, Sydney, May 2004.
- 70 Sharma Chakravarthy, Anoop Sanka, Jyoti Jacob, and Naveen Pandragi, A Learning-Based Approach to Fetching Pages in WebVigil, In *Proc. of the 19th ACM Symposium on Applied Computing*, March 2004.
- 69 Q. Jiang and Sharma Chakravarthy, [Data stream management system for Mavhome](#). In *Proc. of the 19th ACM Symposium on Applied Computing*, March 2004 (poster paper).
- 68 H. Engstrom, S. Chakravarthy, B. Lings, Maintenance Policy Selection in Heterogeneous Data Warehouse Environments: A Heuristics-based Approach, in DOLAP, November 2003, New Orleans,
- 67 Q. Jiang and Sharma Chakravarthy, [Queueing analysis of relational operators for continuous data streams](#). In *Proceedings of the 12th ACM CIKM*, Nov 2003.
- 66 [Jyoti Jacob](#), [Alpa Sachde](#), Sharma Chakravarthy, CX-DIFF: A Change Detection Algorithm for XML Content and Change Presentation Issues for WebVigil. [ER Workshops October 2003](#): 273-284
- 65 P. Mishra and S. Chakravarthy, "Performance Evaluation of SQL-OR Variants for Association Rule Mining", in Proc. Of DaWaK (Data warehousing and Knowledge Discovery), September 2003, Prague.

- 64 R. Adaikkalavan and S. Chakravarthy, "Interval-Based Event Specification and Detection for Active Databases", in Proc. Of ADIBS Conference, Dresden, Sep. 2003, pp. 190-204.
- 63 N. Pandragi, J. Jacob, A. Sanka, and S. Chakravarthy, "WebVigil: User Profile-Based Change Detection for HTML/MXL Documents", in Proc. Of BNCOD 2003, Sheffield, UK, July 2003, pp. 38-57.
- 62 P. Mishra and S. Chakravarthy, "Performance Evaluation and Analysis of K-way join variants for Association Rule Mining", in Proceedings of BNCOD 2003, Sheffield, UK, July 2003, 95-114.
- 61 M. Dudgikar, S. Chakravarthy, R. Liuzi, and L. Wong, "A Layered Optimizer for Mining Association Rules over Relational Database Management Systems", 2003 International Conference on Artificial Intelligence (IC-AI'2003), June 2002, Monte Carlo Resort, Las Vegas, Nevada
- 60 S. Chakravarthy and H. Zhang, Visualization of association Rules over RDBMSs, in the proceedings of ACM SAC 2003, Melbourne, FL, March 2003 (Multi-media and Visualization Track).
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### Doctoral Thesis Supervision

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- 12 Mr. Qingchun (Dustin) Jiang, "A Framework for Handling QoS Requirements in Stream Data Processing", Summer 2005
- 11 Mr. R. Zoufaly, "A Modeling Methodology for Active Databases and automatic extraction of ECA Rules", (Discontinued for personal reasons)
- 10 Mr. H. Engstrom, "Change Detection and View maintenance Policies for Data warehouses", Fall 2002, Co-Supervisor (Thesis submitted to the University of Exeter, UK).
- 9 Mr. Hyonjin Kim, "Transaction Blades: Formalism and Performance Evaluation", (Discontinued for personal reasons)
- 8 Mr. Shiby Thomas, "Architectures and Optimizations for Integrating Data Mining Algorithms with Database Systems", Fall 1998, Chairman.  
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- 7 Mr. M. Berndtsson, "Cooperative Problem Solving using Active Paradigm", Summer 98, Co-Supervisor (Thesis submitted to the University of Exeter, UK).
- 6 Mr. J. R. Arguello, "On Decision Tree Induction for Knowledge Discovery in Very Large Databases", Summer 96, Chairman.
- 5 Ms. E. Anwar, "An Extensible Approach to Realizing Extended Transaction Models", Spring 96, Chairman.  
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- 3 Mr. D. Hong, "Real-Time Transaction Scheduling: Synthesizing Static and Dynamic Factors'', Fall 1995, Chairman.
- 2 Mr. I. Hwang, "Dynamic Load Balancing Algorithms for Multiprocessor Systems'', Spring 1994, Co-Chairman.
- 1 Mr. W-K Whang, "A Logic-Based Approach to a Federated Database System'', January 1992. Thesis supervisor. Dept: Electrical Engineering.

### **Doctoral Committee Membership**

- 14 Mr. Y. Shyy, "An Object-Oriented Knowledge Base Programming Language for Software Development and Prototype'', August 1992.
- 13 Mr. Rafi Ahmed, "Version Control and Management in Computer-Aided Design databases'', December 1990.
- 12 Mr. Minyoung Ra, "Data Fragmentation and Allocation Algorithms for Distributed Database Design'', November 1990.
- 11 Ms. U. Jager, "Optimizing ECA Rules in Distributed Environments'', Fall 1996, Thesis submitted to the University of Humboldt at Berlin, Germany.
- 10 Mr. D. Arctur, "Design and Implementation of a Self-Defining Object-Oriented Database System for Digital Mapping'', Spring 1996. Dept: Urban and Regional Planning.
- 9 Mr. G. Mahalingam, "Application of the Object-Oriented Paradigm for the Design of Auditoria'', December 1994. Dept: Urban and Regional Planning.
- 8 Mr. Jaimin Bai, "Application of Parallel Processing techniques for Finite element analysis'', Fall 1994. Dept: Aerospace Engineering.
- 7 Mr. Ping Wu, "Rule Validation in Object-Oriented Databases'', July 1993. Dept: Electrical Engineering.
- 6 Mr. Suey-Chyun Fang, "A Neutral Data Model for the Design and Implementation of a Heterogeneous Data Model and Schema Translation System'', July 1993. Dept: Electrical Engineering.
- 5 Mr. F. E. Nasser, "Operation and Cost Models for High-speed rail and Maglev Systems'', July 1993. Dept: Civil Engineering.

- 4 Mr. HH Chen, "Temporal Knowledge Base Management: Model, Query Language, Algebra and Implementation Techniques'', April 1993. Dept: Electrical Engineering.
- 3 Mr. A. Hussam, "A Water Resource Management and Planning Decision Support System for the Sultanate of Oman'', August 1992. Dept: Environmental Engineering.
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### **Master's Thesis Supervision**

- 75 Mr. Srihari Padmanabhan, "Relational Database Approach to Graph Mining and Hierarchical Reduction", Fall 2005
- 74 Mr. Nikhil Deshpande, "InfoSearch: A System for Searching and Retrieving Documents for Complex Queries", Fall 2005
- 73 Mr. Dhawal Bhatia, "Approaches for Validating Frequent Episodes Based On Periodicity in Sequence Data", Fall 2005
- 72 Mr. Vihang Garg, "Estream: An Integration and Event and Stream Processing", Fall 2005
- 71 Mr. Sunit Sreshta, "SQL\_Based Approach to Significant Interval Discovery in Time-Series Data", Summer 2005
- 70 Ms. Manu Aery, "InfoSift: Adapting Graph Mining Techniques for Document Classification, Fall 2004
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- 67 Mr. Shravan Chamakura, "Improvements to Change Detection and fetching to Handle Multiple URLs in WebVigil", Fall 2004
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- 46 Mr. N. Vontela, "Alert Server: A Persistent and Recoverable Middleware approach to Alert Distribution", MS Thesis, UTA, Spring 2002.
- 45 Mr. S. Thirunagari, "Recoverable Global Event Detector for Distributed Applications", MS Thesis, Spring 2002.  
<http://itlab.uta.edu/ITLABWEB/Students/sharma/theses/Sreekant.pdf>
- 44 Mr. W. Tanpisuth, "Design and Implementation of Subscription/Notification Paradigm for Distributed Environments", MS Thesis, UTA, Fall 2001.  
[http://itlab.uta.edu/ITLABWEB/Students/sharma/theses/Weera\\_thesis.pdf](http://itlab.uta.edu/ITLABWEB/Students/sharma/theses/Weera_thesis.pdf)
- 43 Mr. S. Dasam, "Decoupling the Open OODB from the Local Event Detector", MS Project, UTA, Summer 2000.
- 42 Mr. Young-Hun Kim, "A Generalized ECA Agent for Extending the Active Capability of an RDBMS", Fall 2000.

- [http://itlab.uta.edu/sharma/People/ThesisWeb/ykim\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/ykim_thesis.pdf)
- 41 Mr. Hongen Zhang, "Mining and Visualization of Association Rules in Relations DBMSs'", Summer 2000.  
<http://itlab.uta.edu/sharma/People/ThesisWeb/etd.pdf>
- 40 Mr. M. Dudgikar, "A layered Optimizer for Mining Association Rules Over Relational Database Management Systems'", Summer 2000.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/md1\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/md1_thesis.pdf)
- 39 Ms. Z. Song, "A Generalized Approach for Extending the Active Capability of DBMSs'", Summer 2000.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/zsong\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/zsong_thesis.pdf)
- 38 Mr. R. Dasari, "Events and Rules for Java: Design and Implementation of a Seamless Approach'", Fall 1999.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/rajesh\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/rajesh_thesis.pdf)
- 37 Mr. Seokwon Yang, "Interactive Visualization Tool for Supporting ECA Rule Design'", Summer 1999.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/seyang\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/seyang_thesis.pdf)
- 36 Ms. Shuang Yang, "Formal Semantics of Composite Events for Distributed Environments: Algorithms and Implementation'", December 1998. [http://itlab.uta.edu/sharma/People/ThesisWeb/sy0\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/sy0_thesis.pdf)
- 35 Ms. G. Sukhatankar, "Enhancements to the Global event Detection Server to Improve Functionality and performance'", December 1998.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/gls\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/gls_thesis.pdf)
- 34 Mr. S. Neelakantan, "Scheduling Rules in an Active DBMS Using Nested Transactions'", Fall 1998.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/shashin\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/shashin_thesis.pdf)
- 33 Mr. R. Le, "Support for Composite Events and Rules in Distributed Heterogeneous Environments'", Summer 1998.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/leroger\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/leroger_thesis.pdf)
- 32 Ms. Lijuan Li, "An Agent-Based Approach to Extending the native Active Capability of Relational Database Systems'", Summer 1998.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/lli\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/lli_thesis.pdf)
- 31 Ms. P. Kuppala, "Virtual factory Simulation using an Object-Oriented Active Database System'", Summer 1998.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/kuppala\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/kuppala_thesis.pdf)
- 30 Mr. H. Chu, "A Flexible Dynamic ECA Rule Editor for Sentinel: Design and Implementation'", Fall 1997.  
<http://itlab.uta.edu/sharma/People/ThesisWeb/hungju-thesis.pdf>
- 29 Ms. J. Sung, "A recoverable Asynchronous Event manager for Supporting Distributed Active Databases'", Fall 1997.

- [http://itlab.uta.edu/sharma/People/ThesisWeb/jsung\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/jsung_thesis.pdf)
- 28 Mr. Sang-Woo Han, "interactive Visualization Tool for Designing and Debugging Active Database Systems'', Summer 1997.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/shan\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/shan_thesis.pdf)
- 27 Mr. Prahlad, "A Dynamic Rule Editor for sentinel: Design and Implementation'', Spring 1997.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/prahlad\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/prahlad_thesis.pdf)
- 26 Ms. H. Liao, "Global Events in Sentinel: Design and Implementation of a Global Event Detector, Fall 1996.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/hliao\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/hliao_thesis.pdf)
- 25 Mr. D. Vance, "Supporting Active Database Semantics in Sybase'', Summer 1996.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/dvance\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/dvance_thesis.pdf)
- 24 Ms. E. Malinowski, "Fragmentation Techniques for Distributed Object-Oriented Databases'', Summer 1996.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/elka\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/elka_thesis.pdf)
- 23 Ms. Hye-Sun Lee, "Support for Temporal Events in Sentinel: Design, Implementation, and Preprocessing'', May 1996.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/hsl\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/hsl_thesis.pdf)
- 22 Mr. J. Granstrom, "OQL Parser and Rule Editor for Sentinel'', Fall 1995, MS Thesis to be submitted to the Royal Institute of Technology, Stockholm, Sweden, thesis supervisor.
- 21 Mr. J. Zhou, "SIEVE: An Interactive Visualization and Explanation Tool for an Active OODBMS'', August 1995.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/jz1\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/jz1_thesis.pdf)
- 20 Mr. R. K. Honnavalli, "Design and Implementation of an Event Based Shop Floor Control Application of Sentinel -- An Active OODBMS'', August 1995, Co-Chairman.
- 19 Mr. L. Maugis, "Highly available replicated atomic data'', Co-Chair, August 1994.
- 18 Ms. Hema Kannan, "Making CANDIDE a Multi-user DBMS in a LAN Environment'', August 1994.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/hks\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/hks_thesis.pdf)
- 17 Mr. X. Zhang, "Performance Evaluation of Grace Hash-Join Algorithm on the KSR-1 Multiprocessor System'', August 1994.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/xhai\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/xhai_thesis.pdf)
- 16 Ms. M. Andraka, "Staging Data in Client-Server Architecture: A Methodology for Client Buffer Management using semantic data'', May 1994.

- 15 Mr. Z. Tamizuddin, "Visualization of concurrent rule execution in active Databases'', May 1994.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/zt0\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/zt0_thesis.pdf)
- 14 Mr. F. Lambay, "Management of Recurrent Brain Tumors: Using an AI Approach'', April 1994, Co-Chairman. Dept: Industrial and Systems Engineering.
- 13 Ms. V. Krishnaprasad, "Event Detection For Supporting Active Capability in an Object-Oriented DBMSs: Semantics, Architecture, and Implementation'', March 1994.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/vk\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/vk_thesis.pdf)
- 12 Ms. R. K. Dastur, "Using Recoverable Queues for Reliable Event Communication Between Applications and Active Databases'', Co-Chair, December 1993.
- 11 Mr. R. Badani, "Nested Transactions for Concurrent Rule Execution: Design and Implementation'', November 1993.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/rhb\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/rhb_thesis.pdf)
- 10 Mr. S. K. Kim, "A Formal and Unified Approach to Temporal Databases'', Nov. 92.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/skk\\_ms\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/skk_ms_thesis.pdf)
- 9 Ms. E. Anwar, "Supporting Complex Events and Rules in an OODBMS: A Seamless Approach'', November 92.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/emsa\\_ms\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/emsa_ms_thesis.pdf)
- 8 Mr. D. Hong, "Real-Time Transaction Scheduling: A Cost-Conscious Approach'', August 1992.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/hong\\_ms\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/hong_ms_thesis.pdf)
- 7 Mr. J. Muthuraj, "A Formal Approach to the vertical Partitioning Problem in Distributed database Design'', August 1992.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/jay\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/jay_thesis.pdf)
- 6 Mr. A. Sharma, "On Extensions to a Passive DBMS to Incorporate Active and Multi-media Capabilities'', August 1992.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/ash\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/ash_thesis.pdf)
- 5 Mr. S. Garg, "Extended Relational Algebra (ERA): For Situation Optimization in Active Databases'', Dec 91.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/garg\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/garg_thesis.pdf)
- 4 Mr. D. Mishra, "Snoop: An Event Specification Language for Active Databases and Its Detection'', Aug 91.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/deepakm\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/deepakm_thesis.pdf)
- 3 Mr. Dave Staal, "A Methodology for Multi-Level Information Modeling using a Conceptual Tree'', May 91.

- 2 Mr. R. Blanco-Mora, "Active DBMSs for supporting Very Large Production Systems'', May 91.  
[http://itlab.uta.edu/sharma/People/ThesisWeb/rbm\\_thesis.pdf](http://itlab.uta.edu/sharma/People/ThesisWeb/rbm_thesis.pdf)
- 1 Mr. Anil Kamath, "Transaction Management in Federated Information Bases'', Co-Chair, August 90.

### **Undergraduate Supervision**

- 6 Ms. J. Graham, "CISE Space allocation database'', Spring 1996, Senior project supervisor.
- 5 Mr. C. Beeman, "JTS -- Job Tracking System'', May 1995, Senior project supervisor.
- 4 Ms. Ziemann, "Temporal event recognition in Sentinel'', May 1995, Senior project supervisor.
- 3 Ms. C. Younskevicius, "Simulation Data Management of Transaction Processing'', December 1993, Senior project supervisor.
- 2 Mr. Jean-Gael Bakalemian (from Center D-Etudes de la Navigation Aerienne, France), "Introduction of ECA rules in an Object-Oriented Flight Data management System'', June 1993, B.S. thesis Co-supervisor
- 1 Mr. Lionnel Maugis (from Center D-Etudes de la Navigation Aerienne, France), "Adequacy of Active Database Management Systems to Flight data Processing Servers'', June 1992, B.S. thesis Co-supervisor.

### **Invited/Keynote Talks**

- |           |   |
|-----------|---|
| May 2006  | To be given at "MOST International Workshop on Data, Text and Web Mining for Telecommunications (MOST-DTWM'06)", Krakow, Poland, May 2006 |
| Aug 2004  | Graph Mining Using Relational Database techniques, Invited Talk, IIT Bombay, August 2004  |
| July 2004 | Enabling Technologies for harnessing Information Explosion, Invited Talk, CSE-Chapter, Pune, July 2004.                                   |
| July 2004 | Stream Processing Techniques for Telecommunication Applications, Presentation at Agilent, Scotland, July 2004                             |
| Feb 2004  | Graph Mining: Performance and Scalability Issues Using Relational Database Techniques, UNT, Denton, USA, 2004                             |
| July 2003 | Graph Mining: Performance and Scalability Issues Using Relational Database Techniques, York University, UK.                               |
| June 2003 | Relational Database Approaches and Their Optimization Graph Mining, IBM research Center, India.   |

CV: Sharma Chakravarthy

- May 2003 Just-In-Time (JIT) Information Propagation: To Push or Not to Push?, **Keynote talk** at Information technology: Prospects and Challenges, Katmandu, Nepal.
- Jul 2002 S. Chakravarthy, "ECA Paradigm: Current-state-of the Art and what the Future Holds", at EnigmaTec, London, UK, June 17<sup>th</sup> 2002
- Jun 2002 S. Chakravarthy, "Pervasiveness of ECA Paradigm: From Constraints to E-Commerce", **Keynote** Address at the International Workshop on Rule Markup Language (RuleML), Sardinia, Italy, June 4<sup>th</sup> 2002.
- Jan 2002 S. Chakravarthy and V. Kumar, "Profile-based Context-aware Information Delivery for Mobile Environments", presented at the Invited NSF Workshop on Context-aware Mobile and Pervasive Data Management, Providence, January 2002
- Jul 2000 Just-In-Time Information (JIT): To Push or Not to Push, **Keynote** talk at the British National Conference on Databases (BNCOD), July 2000
- Aug 2000 Current Trends in Information Technology, Invited talk at SRA Systems, Chennai, India
- Nov 1999 From Databases to Information Technology, Invited talk at Skoevde, Sweden Nov 1999
- Nov 1999 A Retrospective Appraisal of Active and Real-Time Technologies and Their potential, Invited talk at RTIS, Dallas
- Jul 1998 Inducing Cooperation Among Information Systems, **Keynote** talk at the Cooperative Information Systems and Agents (CIA'98), Paris, July 1998.
- Mar 1997 Promises and Realities of Active Database Technology: An appraisal, Invited talk at the 8th Data Engineering Workshop, Kobe, Japan.
- Nov 1996 A Practical approach to Build Real-Time Database Applications Invited talk at the Workshop on Databases: Active and Real-Time (Concept meets Practice) (DART'96), Bethesda, Maryland.
- Aug 1996 Extensions to Snoop: Event specification for Real-Time Applications, Invited talk at the SNART (Swedish Association for Real-Time Systems) meeting, Skovde, Sweden.
- Jul 1995 Reactive Capability in Data, Knowledge Bases: A Core Requirement for Advanced Applications **Keynote** talk at the Basque Int'l Workshop on Information Technology (BIWIT'95), San Sebastian, Spain.

- Jul 1995 Experiences in Building an active OODBMS: Where We Are and Where Are We Headed? At the ACTNET meeting, San Sebastian, Spain.
- Feb 1994 Snoop: An Expressive Event Specification Language for Active Databases, at the 5th International Hong Kong Computer Society Database Workshop, Kowloon, Hong Kong.
- Feb 1992 Extending Database Management Systems for Supporting Engineering Applications, at the First International Congress of Electromechanical Engineering, Problems, and Perspectives held at Mexico City, Mexico.
- Sep 1991 Combining Active and Deductive Capabilities: A Systems Perspective, at the Second International Workshop on Deductive Approach to Information Systems and Databases, Aiguablava, Spain.

#### **Invited Seminar/Colloquium**

- Aug 2002 S. Chakravarthy, "Active Capability-Based Change Detection in Large Network-Centric Environments", Asian Institute of Technology, Bangkok, Thailand.
- July 2002 S. Chakravarthy, "WebVigil: A Rule-Based Approach to Change Detection in Web Environments", At the Birkbeck College, University of London, June 17<sup>th</sup> 2002.
- Aug 1998 An Agent-Based Approach to Extending The native Active Capability of Relational Database Systems, at the Indian Institute of Science, Bangalore, India.
- Jul 1998 An Agent-Based Approach to Extending The native Active Capability of Relational Database Systems, at the Indian Institute of Technology (IIT) -- Bombay, Mumbai, India.
- Sep 1997 Design and Implementation of the Global Event Detector, at the University of Linkoping, Sweden.
- Mar 1997 Design and Implementation of the Local Event Detector, at JAIST (Japan Advanced Institute of Science and Technology), Hokuriku, Japan.
- Jun 1996 A general Framework for Supporting Active Capability: An Overview of Sentinel, at Technion, Haifa, Israel.
- Jul 1996 Sentinel Overview'', at Bilkent University, Ankara, Turkey.
- Apr 1996 Broader Uses of Active Capability: An Appraisal'', at CS/MIS Lecture Series, University of Arizona, Tucson.

*CV: Sharma Chakravarthy*

- Mar 1996 Design and Implementation Details of Sentinel, at Hewlett-Packard Labs., Palo Alto, CA.
- Mar 1996 Technology Transfer of Active Capability, at Informix, Mountain View, CA.
- Sep 1995 Promises and Realities of Active Capability: An Appraisal, at the T. J. Watson Research Center, IBM, Hawthorne, NY.
- Jul 1995 Overview of Sentinel: An Active Object-Oriented DBMS, Institut National de Recherche en Informatique et Automatique (INRIA), Paris, France.
- Mar 1995 Overview of Sentinel: An Active Object-Oriented DBMS, Indian Institute of Science, Bangalore, India.
- Mar 1995 Active and Real-Time DBMS Work at the University of Florida, Hong Kong University of Science and Technology (HKUST), Hong Kong.
- Mar 1995 Overview of Sentinel: An Active Object-Oriented DBMS, University of California at Los Angeles, CA.
- Jul 1994 Architecture and Implementation of Sentinel: An Object-Oriented Active DBMS, University of Skovde, Sweden.
- Jun 1994 Overview of Sentinel: An Object-Oriented Active DBMS, Institute of Computing Science, Technical University of Poznan, Pozna, Poland.
- Jun 1994 Snoop: Semantics, Contexts, and Implementation in Sentinel, Institut Fur Informatik, Technische University at Cottbus, Cottbus, Germany.
- Jun 1994 Architecture and Implementation of Sentinel: An Object-Oriented Active DBMS, Software Technology Seminar, National Center for Software Technology (NCST), Bombay, India.
- Jun 1994 An Introduction to Object-Oriented Active Databases, Information Management Resources, Bombay, India.
- Oct 1992 Real-Time Transaction Scheduling: A Cost Conscious Approach, at TH Darmstadt, Darmstadt, Germany.
- Jun 1992 An Expressive Event Specification Language for Sentinel, at the Computer Systems Laboratory, Texas Instruments, Dallas, June 1992.
- May 1992 Active, Real-Time, and Heterogeneous Databases, a short course at the Computer Science Department, University of Skovde, Skovde, Sweden. Also, set research directions for the program

*CV: Sharma Chakravarthy*

- May 1992 Events, Triggers, and Active Databases, at the Department of Computer Science, University of Linkoping, Linkoping, Sweden.
- Feb 1992 Event Specification in Sentinel, at the Microelectronics and Computer Technology Corporation (MCC), Austin, Texas.
- Dec 1991 Rule Optimization in Sentinel, at the Tata Institute of Fundamental Research, Bombay, India.
- Dec 1991 Supporting Very Large Rule Bases: An Active Database Approach, Tata Consultancy Services, Bombay, India
- Dec 1991 Next Generation DBMSs: Need for Active and Real-Time Functionality, at the Computer Society of India, Bangalore Chapter, Bangalore, India.
- Jun 1991 Cooperative Problem Solving: A DB-Centric Approach at the workshop for establishing directions for cooperative scientific problem solving, Trento, Italy.
- May 1991 Situation Monitoring in Active Databases, at the National Center for Software Technology (NCST), Bombay, India
- Apr 1991 Making an Object-Oriented System Active: Design and Implementation Issues, at NTT Data Communications, Tokyo, Japan.
- Apr 1991 Active Database Systems: What Next?, KAIST (Korea Advanced Institute for Science and Technology), Seoul, South Korea.
- Apr 1991 Active Database Systems: At the Crossroad of AI and Databases, Tokyo Denki University, Tokyo, Japan.
- Apr 1991 Active Database Systems: An Overview, Fujitsu Labs, Tokyo, Japan
- Sep 1990 Active Databases: Issues, and Solutions, Columbia University, New York.
- Mar 1990 HiPAC: Overview of an Active Database Management System, Dipartimento di Elettronica, Politecnico di Milano, Milan, Italy.
- Oct 1989 Beyond PROBE and HiPAC: Desiderata of DBMS Features for Supporting Non-traditional Applications, Database Research Workshop, Database Systems Research and Development Center, University of Florida.
- Aug 1989 Rule Management and Evaluation: An Active DBMS Perspective, Institut National de Recherche en Informatique et Automatique (INRIA), Paris.

Aug 1989 Multiple Query Optimization: Making it Viable for Advanced DBMSs, European Computer-Industry Research Center GMBH (ECRC), Munich.

May 1989 Overview of HiPAC: An Active, Time-Constrained Database Management System, Hewlett-Packard Laboratories.

### Invited Tutorials

Mar 2006 Graph Mining Techniques and Applications, EDBT (Extended Database technology) Conference, Munich, Germany

May 2005 Graph Mining Techniques and Applications, PAKDD (Asia Pacific Conference on Knowledge and Data Discovery), Hanoi, Vietnam.

May 2003 Push Vs. Pull: Information Dissemination Techniques for the Web, International Conference on Information Technology: Problems and Challenges, 2003 Katmandu, Nepal.

Dec 1995 Emerging Trends in Database Systems, at the 7th International Conference on Management of Data (COMAD '95), Pune, India, December 1995, (jointly with Prof. S. B. Navathe).

Dec 1994 Object-Oriented Database Concepts and Systems at the International Conference on the management of Data (COMAD '94) in India, (jointly with Prof. S. B. Navathe).

Jun 1994 Distributed Data Management: Promises, State-of-the-art, and Current Trends, at the 14th International Conference on Distributed Computing Systems (ICDCS'14), Pozna, Poland.

Feb 1994 Active Databases: Issues and Concepts, at the 5th International Hong Kong Computer Society Database Workshop, Kowloon, Hong Kong.

Apr 1993 Active and Real-Time Databases, at the International Conference on Data Engineering (ICDE '93) in Vienna, Austria (jointly with Prof. Alex Buchmann)

Oct 1992 Federated, Heterogeneous Databases, at the 11th International conference on Entity Relationship Approach, Karlsruhe, Germany (jointly with Prof. S. B. Navathe)

Feb 1992 Active and Real-Time Databases, at the Eight International Conference on Data Engineering at Phoenix.

Dec 1991 Active and Real-Time Databases at the International Conference on the Management of Data (COMAD '91) in India.

Oct 1991 Active and Real-Time Databases at the 10th International

conference on Entity Relationship Approach, San Mateo, CA.

Oct 1990 Active and Heterogeneous Databases at the 9th International conference on Entity Relationship Approach, Lausanne, Switzerland.

## University Service

### Visitors

#### Hosted

- Henrik Engstrom, Univ. of Skovde, Sweden 2 weeks in May 2001
- Whang-Kyu Whang, South Korea, 1 year, 12/01 to 12/02
- Jun Miyazaki, JAIST, Japan, 1 year 1/00 to 1/01
- Injae Hwang, South Korea, 1 Year 8/00 to 7/01
- In Hong Lee, Jeonju University, Korea, 1 year 2/97 to 2/98
- Ms. U. Jaeger, University of Humboldt, 2 weeks in March 1996.
- Mr. Mikael Berndtsson, University of Skovde, Sweden, 2 weeks, Jan 96.
- J. E. Granstrom, Royal Institute of Technology, Sweden, 4 months (8/95 to 12/95).
- Prof. J. D. Yang, Chonbuk National University, Chonju, South Korea, 1 year (1/95 to 1/96).
- Prof. Harou Yokota, Japan Advanced Institute of Science and Technology (JAIST), Japan, 2 months (8/93 to 10/93).
- Mr. Jean-Gael Bakalemian from Center D-Etudes de la Navigation Aerienne, France, 4 months (2/93 to 6/93).
- Mr. Mikael Berndtsson, University of Skovde, Sweden, 1 week, 1/93.
- Mr. Lionnel Maugis from Center D-Etudes de la Navigation Aerienne, France, 4 Months (2/92 to 6/92).

### Chairman

- Graduate Committee, UTA 8/2000 to present
- Distance-education committee, 1997-1999. Transitioning from FEEDS to web-based courses, especially certificate courses in IT. Facilities committee, 1991 to 1994. Established the cost center for computer maintenance (with Prof. Joseph Wilson). Level: Department
- Information Science Program, 1991 to 1999. Prepared handouts for distribution to College of Business Administration (CBA) students and orientation material or incoming CIS, CBA majors, 1993. Level: Department.

### Member

- Recruiting Committee, UTA, 2000 to present. Level:

Department

- Tenure and Promotion Committee, UTA 2000 to present. Level: Department
- Comprehensive examination committee, 1990-1992. Level: Department
- Curriculum committee, 1991 to 1999. Level: Department
- Facilities committee, 1989-1990, 1995 Level: Department
- Graduate Admissions Committee, 1993-1994. Level: Department
- Task Force to implement exchange between UF and University of Poona, India, 1994. Level: University

Department  
representative

- Database Group at UTA
- Undergraduate curriculum committee of the College of Business Administration, 1992 to present. Level: College

Department  
Coordinator

- United Way campaign, 1992-93, Level: Department

College  
Representative

- In the University Senate, 1994-96. Level: College

University  
Program  
Advocate

- Of the Cooperative agreement between UF and the University of Poona, India, 1994. Level: University
- Of the Cooperative agreement between UF and the University of Skovde, Sweden, 1994. Level: University

Liaison

- Departmental liaison with the College of Business Administration (CBA), 1990 to present, Level: College

**Professional Activities**

Guest Editor Special issue of Journal of Intelligent Information Systems (JIIS) on Active Databases, October 1996 issue (with J. Widom, Stanford University).

Special issue of IEEE Data Engineering Bulletin on Active Databases (with Jennifer Widom, Stanford University), Volume 15, No. 1-4, December 1992, 60 pages.

Organizer Dagstuhl Seminar on Active Databases, March 1994 (with

CV: Sharma Chakravarthy

Prof. A. Buchmann, Germany and Prof. K. Dittrich, Switzerland). It is a prestigious, by invitations-only workshop (held in Schloss Dagstuhl, Germany); this workshop traditionally charters the direction of research in a promising area.

IDM 2001 Workshop in Dallas/Fort Worth, May 2001

*Invited Participant* IDM 2000 Workshop Organized by NSF, March 11-13, 2000,

IDM98 Workshop Organized by NSF, March 29-31, 1998,

NGIE (New Generation Information Environment) Retreat organized by Rome Labs, Rome, Nov. 17-20, 1997,

Information2000 Workshop organized by Rome Labs, Rome, Oct. 7-9, 1997,

I\*3, POB Workshop organized by ARPA, San Diego, Jan 9-12, 1996.

I3S Workshop organized by Rome Laboratory, Rome, November 1994.

International Workshop on an Infrastructure for Temporal Databases, Sponsored by Advanced Research Projects Agency (ARPA) and National Science Foundation (NSF), Arlington, Texas, June 14-16, 1993.

Intelligent Information Integration Systems (I3S) Workshop, Sponsored by Advanced Research Projects Agency (ARPA) and SISTO and several Federal agencies, Reston, Virginia, March 17-19, 1993.

*Chair/  
Vice Chair/  
Co-Chair*

SIGMOD 2000, Corporate Sponsors Chair

VLDB 2000, Publications Chair

ICDE'98, Chair for Research Prototype Demos

ICDE'97, North American Coordinator

ICECCS '96, '97, Track Co-Chair, Second IEEE International Conference on Engineering of Complex Computer Systems, track: Complex Database Systems and Data Management (with Prof. S. Andler, University of Skovde, Sweden).

VLDB '96, Tutorial Co-Chair, International Conference on

Very Large Databases, Bombay, India.

ICDE '96, PC Vice Chair, 12th International Conference on Data Engineering, Feb. 26 -- March 1, 1996 (Vice Chair for the area: Extensible and Active Database, Knowledge Base Systems).

ARTDB '95, PC Co-Chair, An International Workshop on Active and Real-Time Database Systems, June 9-11, Sweden, 1995 (with Prof. Sten Adler, University of Skovde, Sweden).

COMAD '94, PC Co-Chair, Sixth International Conference on Management of Data, India, December 1994. (With P. Sadanandan, National Center for Software Development, Bangalore, India)

RIDE-ADS '94, PC Co-Chair, IEEE and CS sponsored Fourth International Workshop on Research Directions in Data Engineering Active Database Systems, Houston, February 1994. (With Prof. Jennifer Widom, Stanford University).

Chair,  
Session

On "Monitoring and Data Dissemination", VLDB 2002, Hong Kong, 2002.

On "Aggregation", VLDB 2000, Cairo, Egypt, September 2000.

On "Query Processing in Spatial databases", ICDE'98, Orlando, FL, February 1998.

On "Well-Behaving Rule Systems for Entity-Relationship and Object-Oriented Models", ER'97 Conference, LA, CA, November 1997.

on "Video and Audio Systems", CIKM'97, Las Vegas, November 1997

On "Active Database Systems" at the 11<sup>th</sup> International Conference on Data Engineering (ICDE), Taipei, Taiwan, March 1995.

On "Modeling and Querying" at the 20th International Conference on Very Large Databases (VLDB), Santiago, Chile, 1994.

on "Temporal Object-Oriented Models" at the Int'l Conf.

On Entity Relationship Approach, Dallas, December 93.

on "Temporal databases" at the 17<sup>th</sup> International Conference on Very Large Data Bases, Barcelona, Sep. '91

on "Deductive Databases I" at the 2nd International workshop on the deductive approach to information systems and databases, Aiguablava, Spain, Sep. '91

on "Distributed Databases" at PARBASE-90: Int'l Conf.

On Databases, Parallel Architectures, and their Applications, 90.

on "Languages and Learning" at the Int'l Conf. on Cooperating Knowledge Based Systems, Oct. 90.

*Chair,  
Panel*

On "The Future of Active Database Systems -- SQL Triggers, Knowledge-Based Rule Processing, and Beyond", at the 11<sup>th</sup> International Conference on Data Engineering (ICDE), Taipei, Taiwan, March 1995.

On "Active Database Requirements - The User's Perspective", at RIDE-ADS, Int'l workshop on Active Database Systems, Houston, February 1994.

On "Coping with Disparate Knowledge in Control Applications" at the Fifth IEEE Int'l Symposium.

On Intelligent Control, 90.

On "Information Technology's Next Breakthrough", at the Information 2000 Workshop, Rome, NY, October 1997.

On "Centralized or Distributed Information Processing", at the 7th International Conference on Management of Data (COMAD '95), Pune, India, December 1995.

*Member,  
Panel*

On "Legacy Systems are here to Stay: How to deal with them?" at the Basque Int'l Workshop on Information Technology (BIWIT'95), San Sebastian, Spain, July 1995.

on "Cooperative Database Design" at the 17<sup>th</sup> International Conference on Very Large Data Bases, Barcelona, '91

On "Cooperative Knowledge Base Systems" at the Int'l Conf. on Data Engineering, Kobe, Japan, April 1991.

*Member,  
Program*

*Committee*

VLDB 2002, ICDE 2003, SIGMOD 2003, CIKM 2002, 2003 etc.  
ICDE 2001, DaWaK 2000, CODAS 2001, FLAIRS 2001.  
DaWaK'99, First International Conference on Data  
warehousing and Knowledge Discovery, Italy, Aug 1999.  
DWDM'98, International Workshop on Data mining and Data  
warehousing, Singapore, Nov. 1998.  
ARTDB'97, Second International Workshop on Active, Real-  
Time and Temporal Databases, Como, Italy.  
IEEE International Conference on Engineering of Complex  
Computer Systems (ICECCS), 1996, 1997  
Sixth IFIP TC-2 Working Conference on Data Semantics (DS-  
6), 1995  
Int'l Conference on Extending Data Base Technology (EDBT  
96), 1996.  
5th Int'l Hong Kong Computer Society Workshop on Next  
generation Database Systems, '94 -- '96.  
Int'l Symposium on Object-Oriented methodologies and  
Systems (ISOOMS), Palermo, Italy, September 1994.  
Int'l Working Conference on Cooperating Knowledge Based  
Systems, University of Keele, England, June 1994.  
1st Int'l Workshop on Rules in Database Systems (RIDS),  
1993, 1995.  
International Conference on Very Large Data Bases, '91, '93  
-- '95  
International Conference on Data Engineering, '90, '91,  
'92  
International Conference on Entity-Relation Approach, '91 -  
- '94  
Int'l Conf. on Management of Data (COMAD), India, '91, '92  
IEEE Int'l Symposium on Intelligent Control, Philadelphia,  
'90  
Compsac90 -- Int'l Computer Software and Applications Conf.

*Referee*

VLDB journal, 1995 to present  
ACM Transactions on Database Systems, 1989 to present.  
IEEE Trans. on Knowledge and Data Engineering, 1991 to  
present.  
IEEE Trans. on Software Engineering, 1994 to present.  
IEEE Computer, 1991 to present.  
Journal of Parallel and Distributed Computing, 1993 to  
present.  
Data and Knowledge Engineering (North-Holland), 1990 to  
present.  
Information Systems Journal (Pergamon Press), 1993 to  
present.  
National Science Foundation and various professional  
conferences.