

**Dr. Amar Gupta**

Thomas R. Brown Chair in Management and Technology;  
Professor of Entrepreneurship and MIS; and  
Senior Director for Research and Business Development;

Eller College of Management

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Date of Birth: July 16, 1953  
Citizenship: US  
Place of Birth: Nadiad

**I. EDUCATION**

<i>Place</i>		<i>Year</i>
I.I.T., Kanpur	B. Tech (Electrical Engineering)	1969-1974
M.I.T., Cambridge	S.M. (Management)	1979-1980
I.I.T., Delhi	Ph.D. (Computer Science)	1977-1980

**II. TITLE OF DOCTORAL THESIS:**

Relevance of Decision Support System Methodologies in Developing Environments

**III. PRINCIPAL FIELD OF INTEREST:**

Information Technology; Knowledge Based Systems; Data Mining; Outsourcing

**IV. CURRENT APPOINTMENT:**

After 25-year association with MIT, moved in summer of 2004 to University of Arizona in Tucson as Thomas R. Brown Chair of Management and Technology; Professor of Entrepreneurship and MIS; and Senior Director for Research and Business Development.

**V. OTHER NON-M.I.T  
EXPERIENCE**

<i>Employer</i>	<i>Position</i>	<i>Period</i>
IBM World Trade Corp., Bombay	Summer Intern	May 1973 - July 1973
DCM Data Products, New Delhi	Assistant Electronics Engineer	May 1974 -Nov. 1974
Dept. of Electronics, New Delhi	Junior Scientific Officer	Dec. 1974 -Aug. 1977
High Commission of	Systems Designer	Aug. 1977 - Feb. 1978

India, London

Dept. of Electronics, Scientific Officer & in charge, Central Evaluation Feb. 1978 -May 1979  
New Delhi and Procurement Agency for Computers  
(CEPAC)

## VI. HISTORY OF M.I.T. APPOINTMENTS

<i>Rank</i>	<i>Period</i>
Research Assistant	Oct. 1979 - May 1980
Research Fellow	June 1980 - Aug. 1981
Post Doctoral Associate	Sept. 1981 - June 1985
Principal Research Associate	July 1985 - May 1991
Senior Research Scientist	June 1991 - July 2004
Associate Director, IFSRC	July 1991 - June 1992
Director, Research Program on Communication Policy	Aug. 1995 - July 1996
Co-Director, PROFIT Initiative	Sept. 1992 - July 2004

First person to hold the title of a Senior Research Scientist at the Sloan School; this is equal to Full Research Professor at other leading universities. Individuals holding this title must go through the same process at MIT as that for other senior academic appointments that are on the conventional track.

## VII. SCHOOL AND INSTITUTE COMMITTEES; OTHER ASSIGNED DUTIES:

<i>Position</i>	<i>From</i>	<i>To</i>
1. Associate Director, International Financial Service Research Center	July 1991	June 1992
2. Co-Director, Productivity from Information Technology (PROFIT) Initiative	Sept. 1992	Present
3. Member, Diversity and Community Committee	Fall 1993	Summer 1996
4. Member, Rich Wang promotion case (to Associate Professor)	Sept. 1993	Dec. 1993
5. Member, Sloan India Committee (Chair: Jim Orlin)	Oct. 1994	1997
6. Co-chair, Leaders For Manufacturing (LFM) Research Track 2	Oct. 1994	1998
7. Member, Advisory Committee, Sangam MIT Indian Students Association	Oct. 1994	Present
8. Member, Stan Finkelstein promotion case (to Senior Research Scientist)	Feb. 1995	May 1995
9. Director, Research Program on Communication Policy	Aug. 1995	July 1996
11. Member, MIT India Committee (Chair: Ken Keniston)	1998	July 2004
10. Member, Diversity and Community Committee (Chair: Gabriel Bitran/Paul Osterman)	Fall 1998	July 2004

## VIII. RESEARCH ACTIVITIES

1. Principal Investigator: Research on Creation of Content Data Model; Sponsored by U.S. Air Force and U.S. Department of Transportation; MIT Account #73317 and 74133; Total Amount = \$461,000.
2. Principal Investigator: Research relating to Management of Large Scale Distributed Pictorial, Textual, and Numerical Information; Sponsored by Federal Aviation Administration and U.S. Department of Transportation; MIT Account #73029; Total Amount = \$1,019,999.
3. Principal Investigator: Research in the Use of KBIISE Approach for Management of Telecommunication Information; Sponsored by Federal Aviation Administration and U.S.

Department of Transportation; MIT Account #72369; Total Amount = \$100,000.

4. Principal Investigator: Research in Hypermedia and Expert Systems; Sponsored by Draper Labs; MIT Account #72691; Total Amount = \$50,000.
5. Principal Investigator: Integration of Diverse Information Systems of TRANSCOM; Sponsored by U.S. Department of Defense and U.S. Department of Transportation; MIT Account #72594; Total Amount = \$98,000.
6. Principal Investigator: Integration of Information from AVI Devices into Existing Database Systems; Sponsored by Burlington Northern Railroad; MIT Account #72298; Total Amount = \$50,000.
7. Principal Investigator: Automated Scanning and Processing of Insurance Documents; Sponsored by American International Group; MIT Account #75057 and via IFSRC; Total Amount = \$100,000.
8. Principal Investigator: Automated Scanning and Processing of Documents; Sponsored by a consortium of leading financial institutions through International Financial Services Research Center; MIT Account #25099; Total Amount = \$459,500.
9. Principal Investigator: Research in Information Technologies to Support Computer Integrated Manufacturing (CIM); Sponsored by U.S. Air Force and U.S. Department of Transportation; MIT Account #70577; Total Amount = \$50,000.
10. Principal Investigator: Assessment of Database Technology for Modernizing Logistics Systems Analysis (LSA) Applications, Sponsored by U.S. Air Force and U.S. Department of Transportation; MIT Account #99938; Total Amount = \$85,000.
11. Principal Investigator: Implementation of Intelligent Updates; Sponsored by Transportation Systems Center of U.S. Department of Transportation; MIT Account #99200 and 99763; Total Amount = \$192,000.
12. Principal Investigator: Research in Pictorial Image Systems and Knowledge Representation for Use in Developing Environments; Sponsored by Government of India; MIT Account #28880; Total Amount = \$45,400.
13. Principal Investigator: Organization of Two Symposia on Knowledge Based Integrated Information Systems Engineering, Sponsored by U.S. Air Force and U.S. Department of Transportation; MIT Account #22111; Total Amount = \$78,500.
14. Principal Co-Investigator: (with S. E. Madnick): Integration of Heterogeneous Databases; Sponsored by U.S. Air Force and U.S. Department of Transportation; MIT Account #98474; Total Amount = \$400,000.
15. Principal Investigator: Design and Implementation of Expert Systems; Sponsored by IBM; MIT Account #96613; Total Amount = \$160,000.
16. Principal Investigator (with Stuart E. Madnick): Productivity from Information Technology; Sponsored by a group of international corporations; MIT Account # 77740; Total Amount = \$380,000.

17. Principal Investigator (with Stuart E. Madnick): Context Interchange: Using knowledge about Data to Integrate Disparate Sources; Sponsored by Advanced Research Projects Agency and Rome Labs; MIT Account #60468; Total Amount = \$2,096,853.79.
18. Principal Investigator: TIMS Advanced Design and Development; Sponsored by Federal Aviation Administration and Volpe National Transportation Systems Center; MIT Account # 77880; Total Amount = \$550,000.
19. Principal Investigator (with Ichiro Masaki): Smart Vision Sensors National Science Foundation; MIT Account #60955; Total Amount = \$125,000
20. Principal Investigator (with Ichiro Masaki): Image Information Technology; Sponsored by Ishikawajima-Harima Heavy Industries Co; MIT Account #61516.
21. Principal Investigator: Networked Multimedia Information Services (NMIS); Sponsored by Advanced Research Projects Agency and the National Science Foundation; MIT Account # 61903; Total Amount = \$650,000.
22. Principal Investigator: Interface Technology for Networked Computing; Sponsored by Advanced Research Projects Agency; MIT Account #78075; Total Amount = \$3,928,524.
23. Principal Investigator: DUET Server Deployment Additions; Sponsored by National Science Foundation; MIT Account #63823; Total Amount = \$800,000.
24. Principal Investigator: Progressive Scan Camera; Sponsored by NASA; MIT Account #62530; Total Amount = \$268,989.
25. Principal Investigator: Progressive Scan Camera; Sponsored by NASA; MIT Account #64198; Total Amount = \$1,189,250.
26. Principal Investigator (with Stuart E. Madnick): Using Emerging Information Technologies to Facilitate Material Procurement in Department of Defense; MIT Account #64913; Total Amount = \$321,766.
27. Principal Investigator: Multiplying Information Technology in Brazil; Sponsored by Instituto UNIEMP; MIT Account #65791; Total Amount = \$100,000.
28. Principal Investigator: Research on Knowledge Acquisition "Knowledge Management and Knowledge Applications in Advance Systems"; Sponsored by US Department of Transportation; MIT Account #66577; Total Amount = \$120,000.
29. Principal Investigator: Data Library at the Federal Aviation Administration; Sponsored via the University of California at Berkeley; MIT Account #66648; Total Amount = \$30,000.
30. Principal Investigator: Intelligent Character Recognition; Sponsored by Integris S.A., Sao Paulo, Brazil; MIT Account #67303; Total Amount = \$100,000.
31. Principal Investigator: A Multi-Faceted Information Technology Based Approach to Handle Very Large Systems and Applications; Sponsored by MITRE Corporation, Bedford, MA; MIT Account

#67616; Total Amount = \$99,933.

32. Principal Investigator: Knowledge Discovery and Knowledge Dissemination in Advanced Systems; Sponsored by US Department of Transportation; MIT Account #67771; Total Amount = \$129,852.73.
33. A Multi-Faceted Information Technology Based Approach to Handle Very Large Systems and Applications; Sponsored by MITRE Corporation; MIT Account #6828700; Total Amount = \$1,406,864.
34. Principal Investigator: Enhancing Productivity Using Neural Networks (Principal Investigator); Sponsored by Tata Iron & Steel Company, Limited (TISCO), Jamshedpur, India; MIT Account #67870; Total Amount = \$100,000.
35. Data Mining and Knowledge Discovery; Sponsored by the Federal Aviation Administration via VOLPE National Transportations Center; MIT Account #6892248; Total Amount = \$316,000.
36. Principal Investigator: Knowledge Discovery and Knowledge Management Tasks related to Design and Development of Spacecrafts; Sponsored by National Reconnaissance Office via MIT Aero Department; MIT Account #6890963; Approximately \$125,000 per year for 2 years.
37. Principal Investigator: Virtual Markets in Wireless Grids; Sponsored by the National Science Foundation (via Tufts University); MIT account #6894341; Total Amount = \$111,250.
38. Knowledge Based Approach to Next Generation; Sponsored by MITRE Corporation; MIT account #6895753; Total Amount = \$70,000.

#### **Previous Research Projects at M.I.T.**

<i>Dates</i>	<i>Topic of Research Project and Name of Sponsor</i>
Oct.1979 - Aug.1980	Evaluation of Microprocessor Architecture IBM, Kingston
Sep.1980 - Aug.1982	Design of Interconnection Bus IBM, Kingston
Sep.1981 - Aug.1982	Increasing Computational Bandwidth of Multimicroprocessor Configurations IBM, Kingston
Nov.1982 - Aug.1983	Executive Workstations and Common End-User Interfaces General Motors
May 1983 - Feb.1987	Architectures for High Speed Large-Capacity Database Systems U.S. Navy

## IX. GOVERNMENT COMMITTEES, SERVICE, ETC.

<i>Committee</i>	<i>Dates</i>
1. Life Member, Indian Institute of Public Administration	1976-present
2. Technical Expert, First International Conference on Health Informatics, World Health Organization, Geneva, Switzerland	December, 1985
3. Session Chairman, Symposium on Artificial Intelligence Applications for Military Logistics Organized by Joint Chiefs of Staff, US Department of Defense, Williamsburg, Virginia	March 1988
4. Member of the Board, Telecom City, a joint effort by the cities of Malden, Everett, and Medford	2000-present

## X. CONSULTING ACTIVITIES (Partial List)

<i>Organization</i>	<i>Years</i>
Chevron	1980
Digital Systems Associates	1980 - 1984
U.S. Federal Aviation Administration	1981
IBM	1981 - 1984
Visual Communications Network	1983 - 1990
World Health Organization (United Nations)	1985 - 1986
SRI International and NSF	1985 - 1986
TDS Healthcare Systems Corporation	1988
Dynatrand Inc.	1988
Citibank	1989
Burlington Northern Railroad	1989
American International Group	1990
Mitre Corporation	1990 and 1994
U.S. Department of Transportation	1991 - 1992
United Nations Development Programme	1992 - 1995
U.S. Air Force	1993
World Bank	1996

## XI. OTHER ACTIVITIES

<i>Activity</i>	<i>Dates</i>
1. Founder-Member, International Financial Services Research Center	Summer 1988-1994
2. Organized two meetings of Technical Advisory Panel of Knowledge Based Integrated Information Systems Engineering Project at MIT. More than 25 top experts participated in these meetings. Participation was by invitation only	Feb. and May, 1987
3. Organized a one-day symposium on Critical Needs, and Approaches to Integration of Heterogeneous Information Systems in Logistics at MIT.	Nov. 10, 1988
4. IFSRC/ILP Seminar on Imaging Technologies, New York.	April 6, 1990
5. Organized a one-day seminar on Emerging Information Technologies for Productivity.	December 13, 1991
6. Co-organized Enterprise '93 "Profit through Information Access" at World Trade Center in Boston. Over 5,000 persons participated in this international event.	June 16-18, 1993

7. Organized a workshop on "IT Issues in Supply Chain Management" for member-companies of the MIT Leaders for Manufacturing (LFM) Program. December 5, 1994
8. Presentation on "Transportation Information Infrastructure," at Workshop on Logistics Anchordesk organized by Advanced Research Projects Agency, Tucson, Arizona. February 1994
9. "IT Issues in Supply Chain Management" as part of the MIT Center for Transportation Studies Conference. March 15, 1995
10. Organized Workshop on "IT Issues in Supply Chain Management" as co-chair of LFM Research Track #2, MIT Leaders for Manufacturing (LFM) Program Research Assault. October 18-19, 1995
11. Co-organized First Internet Telephony Initiative Workshop, MIT, and delivered a presentation on "Motivations for Consortium on Internet Telephony". May 1996
12. Presented "Using Context Interchange Technology to Deal with Diversity Across Data Sources for Material Procurement," DARPA Advanced Logistics Workshop, Dulles Airport Complex, Virginia. May 30, 1996
13. Presented "Using Knowledge About Data to Integrate Disparate Sources," DPSC Virtual Corporation Workshop, Cambridge, Mass., July 31, 1996
14. Presented "Information Practices in the Medical Drug Industry: A Case Study," DPSC Virtual Corporation Workshop, Philadelphia, PA. October 9, 1996
15. Presented "Using Emerging Information Technologies to Facilitate Material Procurement in DoD," DARPA-DLA Joint Logistics Workshop, Philadelphia, PA. November 12-13, 1996
16. Presented "Using Emerging Information Technologies to Facilitate Procurement of Medical Supplies for DoD," DARPA Advanced Logistics Workshop, San Diego, CA. December 1996
17. Presented "High Payoff Information Technologies: A Knowledge-Based Approach", Epoch Foundation Workshop organized by MIT ILP, Cambridge, MA, October 30, 1998
18. Panel Member for "What is Different with Information Technology Implementation in Less-Developed Countries and Why Should We Care?" International Conference on Information Systems, Atlanta, Georgia. December 16, 1997
19. Keynote Speaker, "Impact of Internet and Internet2," Symposium for Science & Technology Attachés from a number of Embassies in Washington, D.C, at MIT (organized by MIT Industrial Liason Program). October 28, 1997
20. Invited Panelist at "Workshop on Opportunities in Federal Information Systems", organized by the National Science Foundation. Arlington, Virginia. May 13-15, 1998
21. Invited Keynote Speech "High Payoff Emerging Information Technologies," presented to 50 officials of U.S. Department of Defense, organized by TRW. June 1999.
22. Invited Speech: "Integrated Command and Control: A Collaborative Effort Involving Industry, Government, and Academia," U.S. Department of Defense, Washington. June 1999.
23. Invited Panel Member: "New Design Paradigms," National Reconnaissance Office. August 1999
24. Co-organized ACM knowledge and Data Discovery Conference, World Trade Center, Boston, (920 persons attended this conference). August 2000
25. Co-organized IEEE 10th International Workshops on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE), MIT, Cambridge, MA. 2001.
26. Presented "Knowledge Based Paradigms for SSPARC," Caltech. August 2001
27. Presented "Knowledge Based Paradigms for SSPARC," Stanford University. January 2002.

## **XII. AWARDS, PRIZES, AND OUTSIDE PUBLICITY**

1. Rotary Award for International Understanding, 1979 - 1980.
2. Brooks Prize - Honorable Mention - 1980.
3. U.S. Department of Transportation Achievement Award for outstanding work on the "Telecommunications Information Management Systems" initiative, -1992
4. U.S. Patent on "System and Method for Character Recognition with Normalization", (Patent #5633954, dated May 1997).
5. Sole person from MIT to be featured in November 1996 issue of "Boston" magazine in article

entitled, "The New Brahmins."

6. Selected as one of three key professors at Sloan School by Business 2.0 in their December 2001 survey of Tech Savvy MBA Schools and prominent persons at each school.

### **XIII. PROFESSIONAL AND HONORARY ORGANIZATION MEMBERSHIP**

<i>Rank and Organization</i>	<i>Dates</i>
1. Senior Member, Institute of Electrical and Electronics Engineers	1985 - present
2. Chairman, IEEE Technical Committee on Microprocessor Applications	1984 -1992
3. Associate Editor, IEEE Transactions on Industrial Electronics	1984 - 1992
4. Assistant Chairman, Industrial Electronics Conference (IECON '85), San Francisco, CA	1985
5. National Publicity Chairman, Industrial Electronics Conference (IECON '86), Milwaukee, WI	1986
6. Executive Member, Organizing Committee, Industrial Electronics Conference (IECON 1987 '87), Boston, MA	
7. Assistant Chairman, Industrial Electronics Conference (IECON '88), Singapore	1988
8. Reviewer for ACM Computing Reviews, Performance Evaluation Journal, IEEE Spectrum, various transactions of IEEE, and for International Conference on Parallel Processing (IEEE) and IECON (IEEE) and other prestigious journals	1983 – present
9. Registration Chair and Executive Member of the Program Committee, ACM International Knowledge and Data Discovery Conference (KDD)	2000
10. Chair, IEEE 10 <sup>th</sup> International Workshops on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE)	
11. Associate Editor, ACM Transactions on Internet Technology, Association for Computing Machinery, (ACM)	2000-present
12. Associate Editor, Journal of Information Resources and Management Association (IRMA)	1999 - present

### **XIV. RESEARCH AND THESIS SUPERVISION**

The following list consists of students whose research and/or thesis work was directly supervised by me. Instances in which I served only as a thesis reader are not reflected below. Also, the names of research papers and dissertations which were later published as papers or as technical reports are included in Section XI, and excluded from the following list.

#### *Doctoral & Masters Students*

Neeraj Agarwal	“Neural Network based Modeling and Simulation for the Optimization of Safety Logic”, 2002.
Nassar Ahmad:	"A Modular Neural Network Based System for the Recognition of Handwritten Numerals", 1992.
Walter Aldana	“Data Mining Industry: Emerging Trends and New Opportunities”, May 2000.
Dave Anderson	
Clarence Applegate	“A Scheduling Analysis Tool for Real-Time Systems”, 2000.
Shiu-chung Au	“Internet2 in Brazil: Strategic and Technical Issues”, 1998.
Bradley Banks	“Neural Network Based Modeling and Data Mining of Blast Furnace Operations”, 1999.

Pavan Bakeri	
Adolfo Castellon	“Technologies for Connecting and Using Databases and Server Applications on the World Wide Web”, 1997.
Winston D. Chang	A Knowledge Based Approach to Assisting Engineering Design in Collaborative Environments, 2003.
Mark Chi-Hsun Chen	“Simulation and Optimization of Immediate Delivery Networks”, May 2001.
Kelvin Cheung	“A Study of Improvements for the Winbank Courtesy Amount Recognition System”, 1998.
Timothy Chien	“A CASE Strategy Proposal for The Traffic Manager Workbench Project”, 1999.
Geoffrey T. Cooney	“Optimizing Neural Networks for Enhancing Air Traffic Safety”, 2004.
Bobornrat Darakananda	“Simulation of Manufacturing Process Under a Hierarchical Control Algorithm”, 1989.
Susan Dey	“Adding Feedback To Improve Segmentation and Recognition of Handwritten Numerals”, 1999.
Anjali Dhond	“Application of Neural Network Technique
s for Modeling of Blast	Furnace Parameters”, 2000.
Jeff Doering	“Evaluation of an Object-Based Data Interoperability Solution for Air Force Systems”, 2000.
Francine Ming Fang	“An Analytical Study on Image Databases”, 1997.
Michael L. Feng	“A Self-Configuring and Self-Administering Name System”, 2000.
Joseph Figueroa	“iCheck: An Architecture for Secure Transactions in the Processing of Bank Checks”, 1997.
Auroop Ganguly	“Distributed Quantitative Precipitation Forecasts Combining Information from Radar and Numerical Weather Prediction Model Outputs, February 2002.
Jaideep Ganguly	
Angela Ge	“A Neural Network Approach to the Modeling of Blast Furnace”
Sanjay Hazarika	
Daniel T. Hu	“Development of Part of Speech Tagging and Syntactic Analysis Software for Chinese Text”, May 2001.
Angus Huang	“PocketRemote: Integrating a Universal Remote Control with a Handheld Computer”, February 2002.
Paul Huck Jr	“Zero Configuration Name Services for IP Networks”, June 2001.
Adrian Gonzalez	“Telecommunications in Mexico: History, Deregulation and Future”, 1997.
Maher Kallel	
Masatoshi Kano	"International Multi-Company Collaborative Engineering: Strategies of Japanese Engineering and Construction Firms", 1994.
Salman Khan	“Character Recognition Heuristics for Check Amount Verification”, 1998.
Mark Ming-Hsun Lee	“Reengineering the Corporation, A Study At a Semiconductor Company”, 1995.
Gerardo Lemus	"Portfolio Optimization with quantile-based risk-measures", 1998.
Michael G. Leonida	“A Time-Delayed Neural Network Approach to the Prediction of the Hot Metal Temperature in a Blast Furnace”, 2000.
Alexis C. Liu	
Patricia Liu	"Towards the Reliable Automation of Courtesy Amount Recognition," 1996.
Raymond Louie	“Hybrid Intelligent Systems Integration Into Complex Multi-Source Information Systems”, 1999.
Tzer Hung Low	“A Self Healing Dynamically Distributed System for Hotel Management using JavaSpaces”, July 2001.
Yao Ma	“Data Warehousing, OLAP, and Data Mining: An Integrated Strategy for Use at FAA”, 1998.

- Vishal Mehta "Neural Network in Optimization of Safety Logic", 2002.  
Ashish Mishra "Using Structural Analysis to Automate Entity Correlation between Multiple Data Schema", February 2002.
- Pat Moy  
Ronjon Nag  
M.V. Nagendraprasad "Automated Recognition of Handwritten Numerals: Issues and Algorithms", 1991.
- Sze Hwei Ong (Osh): "Grid Computing: Business and Policy Implications", 2003.  
Jay Ongg "An Architectural Comparison of Distributed Object Technologies", 1997.  
Jibu Punoose "An Improved Segmentation Module for the Recognition of Handwritten Numerals", 1999.
- Christopher Poulsen  
Brian A. Purville "Design of Information Channels for Mission-Critical Systems, May 2001.  
Manuel Quintana  
Vijay Ruhela "Effective use of Wire-less Technology (WT) to Enhance Productivity in Information Technology (IT) Activity Management", 1999.
- Wandy Sae-Tan "The Design and Construction of a 3-D Scanner from Off the Shelf Components", 1998.
- Ravindra Sarma "Neural Network Datamining for Prediction and Input Saliency Determination in a Blast Furnace Environment", May 2000.
- Viney Sawhney "Prospects for Privatization of Energy Sector in India", 1994.  
Quincy Scott "SSPARCy: A Software Integration Support and Design Rationale Capture System", July 2001.
- Satwik Seshasai "A Knowledge Based Approach to Facilitate Engineering Design" 2002.  
Harshal Shah "Reengineering of In-Transit Asset Visibility at Federal Express and UPS", 1995.
- Farokh Shapooyee  
Anshu Sinha "An Improved Recognition Module for the Recognition of Handwritten Digits", 1999.
- Madhav Srimadh Strategies for Providing Students and Researchers in Developing Environments Access to Industry Standard Hardware and Software Technologies, 2003.
- Allen Sun "Design and Implementation of Fisheye Routing Protocol for Mobile Ad Hoc Networks", 2000.
- Yang Meng Tan  
Hongfei Tian "Grid Computing as an Integrated Force in Virtual Enterprises", 2003.  
Ali Tobah  
Michael Trupiano "A Taxonomy for Assessing Fitness of Mobile Data Services in US Consumer Markets", 2001.
- Sanjeev Vadhavkar  
David Wang "Automated Semantic Correlation between Multiple Schema for Information Exchange", 2000.
- Brian T. Wong "The Abstract Data Interface", May 2001.  
Tony Wu "Enhancements of Post Processing Step in Winbanks's Off-Line Character Recognition System", 1998.
- Akbar Zaheer
- Undergraduate Students***  
Aparna Agarwal  
George Apostle  
Tyrome Brown "Application of Imaging Technology: A Case Study", 1990.

Jim Buonora	"Fault-Tolerance in a Hierarchical Storage System", 1987.
Rolando Cabrera	"MS-Windows User Interface for OCR", 1993.
Emily Candell	
Winnie Chan	"Improving the Automatic Processing of Handwritten Bank Checks, 2002.
Winston Chang	"Relationship Analysis Tool for Stakeholders in a Knowledge-Based Engineering Design System", 2002
Shane Cruz	"SSPARCY:A Software Integration Support System for Satellite Simulation", 2001.
Gregory A. Dancer	
Anuja Doshi	Neural Network Optimization for Airport Movement Area Safety System, 2003.
Ashima Dua	"Inversion of Neural Networks: A Solution to the Problems Encountered by a Steel Corporation", 2000.
Mark G. Duggan	"Enhancing Accuracy of Automated Numerical Recognition", 1992.
Benjamin Fang	"Datamining Application in Steel Production Neural Network Analysis of the Sinter Making Prediction", 2000.
Vanessa C. Feliberti	"A New Algorithm for Slant Correction of Handwritten Characters", 1991.
Anne M. Francomano	"Intelligent Preprocessing and Postprocessing for Recognizing Numbers", 1992.
Adam Garner	Contemporary Bank Check Alternatives, 2003.
Daniel Gonzalez	"Improvement of the Recognition Module of WinBank", 2002
Lenny Granowetter	"Machine Recognition of the Courtesy Amount Box on Checks", 1993.
Christine Guarino	"A Segmentation-Recognition Method for Handwritten Numeral Strings", 1993.
Suman Gupta	
William Habeck	"An Expert System for Accessing and Integrating Design Analysis Knowledge", 1987.
Scott Hirayama	"Optimization of Query Facilities for a Telecommunications Database", 1992.
Felicia Hu	"A Syntax Verification Module for the Winbank System", 1999.
Daniel Kennedy	"Achieving a Single Model for Integrating Heterogenous Databases", 1987.
Lowell Kim	"Storage and Retrieval of Pictorial Information in Heterogeneous Computing Systems", 1987.
Jennifer Koo	"Optical Character Recognition", 1999.
Danny Lai	"Using Genetic Algorithms as a Controller for Hot Metal Temperature in Blast Furnace Processes", 2000.
Douglas Lee	"Computer-Aided Software Engineering",
Mark Levine	
Andrew Luan	"System Integration of Optical Scanners to Improve Administrative Operations: A Case Study of the US Postal Service", 1993.
Yoshitaka Nakanishi	"Training of Optimized Neural Network for Airport Movement Area Safety System" 2002
Carolyn Ng	"Creating a Web Interface for WinBank", 2003.
Brian Purville	"Data Mining Using Time-Delay Neural-Networks Applied to Steel Production", 2000.
Mu'taz Qubbaj	"Using Decision Trees to Create a Control Mechanism for regulation of the Hot Metal Temperature of the "G" Blast Furnace at Steelcorp", 2000.
Suneeta Ramaswami	
Knute Ream	
John Riordan	
James Rutherford	"An Evolution of Standards for Data Exchanges in an Integrated Environment", 1988.
Harshal Shah	"Reengineering of In-Transit Asset Visibility at Federal Express and UPS",

	1993.
Peter L. Sparks	"A Hybrid Method of Segmenting Numeric Character Strings", 1991
Pankaj Srivastava	"A Study of Optical Scanners and their Application to Office Automation", 1990.
Tameez Sunderji	"Locating the Courtesy Amount Block in Bank Cheque Images", 1999.
Rui Tang	"Electronic Checking System", 2004.
NattavudeThirathon	"Extension and Alarm Analysis of Neural Network Prediction of Separation Distance in AMASS Safety Logic", 2003.
Stella Tsoi	"Implementing Logical Compound Query in a Pictorial Database", 1988.
Richard Wong	
David Yuen	

## XV. PUBLICATIONS

### A. Books

1. Integration of Information Systems: Bridging Heterogeneous Databases (editor), IEEE Press: New York, NY, 1989.
2. Principles of Expert Systems (editor - with B.E. Prasad), IEEE Press: New York, NY, 1988.
3. Microcomputer Based Expert Systems (editor - with B.E. Prasad), IEEE Press: New York, NY, 1988.
4. Advanced Microprocessors - Volume II (editor), IEEE Press: New York, NY, 1987.
5. Multi-Microprocessors (editor), IEEE Press: New York, NY, 1988.
6. Insights into Personal Computers (editor - with H.D. Toong), IEEE Press: New York, NY, 1985.
7. Personal Computers (with H.D. Toong) South Bend, IN, 1983.
8. Advanced Microprocessors (editor - with H.D. Toong), IEEE Press: New York, NY, 1983.

### B. Refereed Articles

1. "Sistema de reconocimiento de caracteres para la lectura autom-tica de cheques" (with R. Palacios), Anales de Mecanica y Electricidad, 2003.
2. "A Knowledge Based Approach To Facilitate Engineering Design" (with S. Seshasai), Journal of Spacecraft and Rockets, 2003.
3. "Selective and Authentic Third-party Distribution of XML Documents" (with E. Bertino, B. Carminati, E. Ferrari, and B. Thuraisingham), IEEE Transactions on Knowledge and Data Engineering, Forthcoming.
4. "Feedback based architecture for reading courtesy amounts on checks" (with R. Palacios and P. Wang), The Journal of Electronic Imaging, 12(1), Jan 2003, pp 194-202.
5. "Handwritten Bank Check Recognition of Courtesy Amounts" (with R. Palacios and P. Wang), Accepted for publication in International Journal of Image and Graphics (IJIG), 2003.
6. "An Integrated and Collaborative Framework for Business Design: A Knowledge Engineering Approach" (with S. Seshasai and A. Kumar), Data and Knowledge Engineering, Special Issue on Business Process Technologies, Accepted on December 1,

2003.

7. "The Critical Role of Trusted Agents", Sloan Management Review, Volume 43, No. 4, Summer 2002, pp. 94-95.
8. "Collaborative Commerce and Knowledge Management" (with E. Bertino, E. Ferrari, and B. Thuraisingham), The Journal of Knowledge and Process Management, Volume 9, Issue 1, 2002.
9. "The Evolution of the High-End Computing Market in the United States" (with S. Deshpande, and R. Foster), The International Journal of Technology Management (IJTM), Volume 23, No. 8, Spring, 2002.
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#### ***F. Technical Reports and Working Papers***

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(This is a condensed version of the master's thesis by A. Gupta entitled "Design and Evaluation of Multimicroprocessor Systems." Incidentally, this thesis was awarded the Brook's Prize -- Honorable Mention -- Award.)