

# Curriculum Vitae of Golden G. Richard III

Professor of Computer Science

University of New Orleans

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## Personal Data

Born August 12, 1964 in Jennings, LA. U.S. Citizen. Married, 1 son. Resident of New Orleans (Orleans Parish).

## Education

- Ph.D. Computer Science, The Ohio State University, 1995.  
Dissertation Title: "Techniques for Process Recovery in Message-Passing and Distributed Shared Memory Systems"  
Advisor: Mukesh Singhal.
- M.S. Computer Science, The Ohio State University, 1991.
- B.S. Computer Science (Honors), minor in philosophy, University of New Orleans, 1988.

GIAC Certified Forensics Analyst (GCFA), 2004-present.

## Research and Teaching Interests

Computer security and digital forensics, mobile computing, wireless networking, auto-configuration/service discovery protocols, operating systems internals, reliable distributed computing.

## Current Affiliations

Professor, April 2007-present,

Department of Computer Science, University of New Orleans.

[Associate Professor of Computer Science [tenured], August 2001-April 2007]

[Assistant Professor, August 1994-August 2001].

Director, Networking, Security, and Systems Administration Laboratory (NSSAL), UNO-designated Center for Information Assurance Education.

Chief Technology Officer and co-founder  
Digital Forensics Solutions, LLC.

Chair of the Board of Directors of the Digital Forensics Research Workshop (DFRWS), 2005-present.

Editorial Board, Digital Investigation (Elsevier)

Member of the United States Secret Service Electronic Crime Taskforce.

Member of USENIX, the IEEE Computer Society, the Association for Computing Machinery (ACM), and the American Academy of Forensics Sciences (AAFS).

USENIX Educational Liaison for the University of New Orleans.

### **Previous Affiliations**

Visiting Associate Professor of Computer Science, University of Texas at Austin, 2005.

### **Books/Chapters**

1. V. Roussev, G. G. Richard III, V. Marziale, "Classprints: Class-aware Similarity Hashes." In Ray, I., Shenoi, S. (eds.), Research Advances in Digital Forensics IV. Springer, 2008. ISBN: 978-0-387-84926-3.
2. G. G. Richard III, V. Roussev, L. Marziale, "In-place File Carving." In Craiger, P., Shenoi, S. (eds.), Research Advances in Digital Forensics III. Springer, 2007. ISBN: 978-0-387-73741-6, pp. 217-230.
3. G. G. Richard III, V. Roussev, "Digital Forensics Tools: The Next Generation." In Kanellis et al (ed.), Digital Crime and Forensic Science in Cyberspace. Idea Group Publishing, 2006. ISBN: 1591408725, pp.75-90.
4. G. G. Richard III, V. Roussev, "Toward Secure, Audited Processing of Digital Evidence: Filesystem Support for Digital Evidence Bags." In Olivier, M., Shenoi, S. (eds.), Research Advances in Digital Forensics II. Springer, 2006. ISBN: 0387368906, pp.29-40.
5. Y. Chen, V. Roussev, G. G. Richard III, Y. Gao, "Content-Based Image Retrieval for Digital Forensics." In Pollitt, M, Shenoi, S. (eds.), Research Advances in Digital Forensics. Springer, 2005. ISBN: 0387300120, pp.271-282.
6. F. Adelstein, S. Gupta, G. G. Richard III, L. Schwiebert, Fundamentals of Mobile and Pervasive Computing, McGraw-Hill, 2004.
7. G. G. Richard III, Service and Device Discovery: Protocols and Programming, McGraw-Hill, 2002.
8. M. B. Kooijmans, B. Foix, T. Newling, G. G. Richard III, S. Tu, Experiences Moving a Java Application to OS/390, IBM Corporation, International Technical Support Organization, 1999.

### **Journal and Conference Publications**

1. M. Kaur, S. Bhatt, L. Schwiebert, G. G. Richard III, "An Efficient Protocol for Service Discovery in Wireless Sensor Networks," *Proceedings of 2nd IEEE International Workshop on Service Discovery and Composition in Ubiquitous and Pervasive Environments (SUPE'08)*, co-located with GLOBECOM 2008, New Orleans, LA.
2. A. Case, A. Cristina, L. Marziale, G. G. Richard III, V. Roussev, "FACE: Automated Digital Evidence Discovery and Correlation," *Proceedings of the 8<sup>th</sup> Annual Digital Forensics Research Workshop (DFRWS 2008)*, Baltimore, MD.

3. V. Roussev, G. G. Richard III, L. Marziale, "Hash-based Classification of Data: Class-based Similarity Hashing," *Proceedings of the Fourth Annual IFIP WG 11.9 International Conference on Digital Forensics*, 2008.
4. L. Marziale, G. G. Richard III, V. Roussev, "Massive Threading: Using GPUs to Increase the Performance of Digital Forensics Tools," *Proceedings of the 7<sup>th</sup> Annual Digital Forensics Research Workshop (DFRWS 2007)*, Pittsburgh, PA.
5. V. Roussev, G. G. Richard III, L. Marziale, "Multi-Resolution Similarity Hashing," *Proceedings of the 7<sup>th</sup> Annual Digital Forensics Research Workshop (DFRWS 2007)*, Pittsburgh, PA.
6. G. G. Richard III, V. Roussev, V. Marziale, "Forensic Discovery Auditing of Digital Evidence Containers," *Journal of Digital Investigation*, (4)2, 2007.
7. G. G. Richard III, V. Roussev, L. Marziale, "In-place File Carving," *Proceedings of the Third Annual IFIP WG 11.9 International Conference on Digital Forensics*, 2007.
8. V. Roussev, Y. Chen, T. Bourg, G. G. Richard III, "md5bloom: Forensic Filesystem Hashing Revisited," *Proceedings of the 2006 Digital Forensics Research Workshop (DFRWS 2006)*, pp. 82-90, West Lafayette, IN.
9. V. Roussev, G. Priego, G. G. Richard III, "TouchSync: Lightweight Synchronization for Ad-Hoc Mobile Collaboration," *Proceedings of the 2006 International Symposium on Collaborative Technologies and Systems (CTS 2006)*.
10. G. G. Richard III, V. Roussev, "Next Generation Digital Forensics," *Communications of the ACM*, February 2006.
11. G. G. Richard III, V. Roussev, "Toward Secure, Audited Processing of Digital Evidence: Filesystem Support for Digital Evidence Bags," *Proceedings of the Second Annual IFIP WG 11.9 International Conference on Digital Forensics*, 2006.
12. D. Tingstrom, V. Roussev, G. G. Richard III, "dRamDisk: Efficient RAM Sharing on a Commodity Cluster" *Proceedings of the 25<sup>th</sup> IEEE International Performance, Computing, and Communications Conference (IPCCC 2006)*.
13. F. Adelstein, Y. Gao, G. G. Richard III, "Automatically Creating Realistic Targets for Digital Forensics Investigation," *Proceedings of the 2005 Digital Forensics Research Workshop (DFRWS 2005)*, New Orleans, LA.
14. G. G. Richard III, V. Roussev, "Scalpel: A Frugal, High Performance File Carver," *Proceedings of the 2005 Digital Forensics Research Workshop (DFRWS 2005)*, New Orleans, LA.
15. L. Klos, G. G. Richard III, "Reliable Ad Hoc Group Communication Using Local Neighborhoods," *Proceedings of the IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob'2005)*.

16. L. Klos, G. G. Richard III, "A Reliable Extension to the ODMRP Ad Hoc Multicast Protocol," *Proceedings of the 2005 International Conference on Wireless Networks (ICWN 2005)*.
17. F. Adelstein, P. Alla, R. Joyce, G. G. Richard III, "Physically Locating Wireless Intruders", *Journal of Universal Computer Science (JUCS)*, 11(1), pp. 4-19, 2005.
18. Y. Chin, V. Roussev, G. G. Richard III, Y. Gao, "Content-Based Image Retrieval for Digital Forensics," *Proceedings of the International Conference on Digital Forensics (IFIP 2005)*.
19. V. Roussev, G. G. Richard III, "Breaking the Performance Wall: The Case for Distributed Digital Forensics," *Proceedings of the 2004 Digital Forensics Research Workshop (DFRWS 2004)*, Baltimore, MD.
20. A. Altalhi, G. G. Richard III, "Load-Balanced Routing Through Virtual Paths: A Highly Adaptive and Efficient Routing Scheme for Ad Hoc Wireless Networks," *Proceedings of the 23rd International Performance, Computing, and Communications Conference (IPCCC 2004)*.
21. F. Adelstein, P. Alla, R. Joyce, G. G. Richard III, "Physically Locating Wireless Intruders," *Proceedings of Information Assurance and Security (IAS 2004)*.
22. Y. Gao, G. G. Richard III, V. Roussev, Bluepipe: An Architecture for On-the-Spot Digital Forensics, *International Journal of Digital Evidence (IJDE)*, 3(1), 2004.
23. A. Altalhi, G. G. Richard III, "Virtual Paths Routing A Highly Dynamic Routing Protocol for Ad Hoc Wireless Networks," *Proceedings of the the First International Workshop on Mobile Peer-to-Peer Computing (MP2P'04)*
24. F. Adelstein, G. G. Richard III, L. Schwiebert, "Distributed Multicast Tree Generation with Dynamic Group Membership," *Computer Communications*, 26(10):1105-1128, June 20, 2003.
25. A. Altalhi, G. G. Richard III, "Dynamic Routes Through Virtual Paths Routing for Ad Hoc Networks," *Proceedings of the 2003 Communications, Internet, and Information Technology Conference (CIIT 2003)*.
26. G. G. Richard III et al, "Bluepipe: Portable Tools for Minimally Invasive, On-the-Spot Computer Forensics Surveys," *2003 Digital Forensics Research Workshop (DFRWS 2003)*, Cleveland, OH.
27. J. Allard, P. Gonin, M. Singh, G. G. Richard III, "A User Level Framework for Ad hoc Routing," *Proceedings of the IEEE International Conference on Local Computer Networks (LCN 2002)*.
28. L. Klos, G. G. Richard III, "Reliable Group Communication in an Ad Hoc Network," *Proceedings of the IEEE International Conference on Local Computer Networks (LCN 2002)*.
29. J. Allard, V. Chinta, S. Gundala, G. G. Richard III, "Jini Meets UPnP: An Architecture for Jini/UPnP Interoperability," *Proceedings of the 2003 International Symposium on Applications and the Internet (SAINT 2003)*.

30. V. Mahadevan, M. Abdelguerfi, S. Tu, G. G. Richard III, "Benchmarking Data Replication Performance for The Defense Integrated Military Human Resources System", *Proceedings of 2002 International Conference on Communications in Computing (CIC 2002)*.
31. C. Jiao, L. Schwiebert, G. G. Richard III, "Adaptive Header Compression for Wireless Networks," *Proceedings of the 26th Annual IEEE Conference on Local Computer Networks (LCN 2001)*.
32. G. G. Richard III, "Service Advertisement and Discovery: Enabling Universal Device Cooperation," *IEEE Internet Computing*, vol. 4, no. 5, September/October 2000.
33. L. Klos, G. G. Richard III, "Julep: An Environment for the Evaluation of Distributed Process Recovery Protocols," *Proceedings of the 2000 Pacific Rim International Symposium on Dependable Computing (PRDC 2000)*.
34. S. Helal, C. Lee, Y. Zhang, G. G. Richard III, "An Architecture for Wireless LAN/WAN Integration," *Proceedings of the IEEE Wireless Communications and Networking Conference, (WCNC 2000)*.
35. R. Ladner, M. Abdelguerfi, G. G. Richard III, L. Klos, B. Liu, K. Shaw, "A Distributed Virtual Reality Prototype for Real Time GPS Data", *Proceedings of the 2nd International Workshop on Telegeoprocessing, 2000*.
36. F. Adelstein, G. G. Richard III, L. Schwiebert, "Building Dynamic Multicast Trees in Mobile Networks," *Proceedings of the International Workshop on Group Communication (IWGC '99)*.
37. F. Adelstein, F. Hosch, G. G. Richard III, L. Schwiebert, "Bessie: Portable Generation of Network Descriptions for Simulation," *Proceedings of 7th International Conference on Computer Communications and Networks (IC3N '98)*, pp. 787-791, 1998.
38. G. G. Richard III, "Efficient Vector Time with Dynamic Process Creation and Termination," *Journal of Parallel and Distributed Computing* 55, pp. 109-120, 1998.
39. G. G. Richard III, S. Tu, "On Patterns for Practical Fault Tolerant Software in Java," *Proceedings of the 17th IEEE Symposium on Reliable Distributed Systems*, pp. 144-150, 1998.
40. G. G. Richard III, M. Singhal, "Complete Process Recovery: Using Vector Time to Handle Multiple Failures in Distributed Systems (revised)," *IEEE Concurrency*, pp. 50-59, Summer 1997.
41. G. G. Richard III, "Perl and Socket-Based Client/Server Programming in Introductory Operating Systems Classes," *Technical Committee on Operating Systems (TCOS) Bulletin, Special Issue on Operating Systems Education*, Fall 1996.

42. F. Adelstein, G. G. Richard III, L. Schwiebert, R. Parent, M. Singhal, "A Distributed Graphics Library System," *Software Practice and Experience*, vol. 24, no. 4, April 1994.
43. G. G. Richard III, M. Singhal, "Using Logging and Asynchronous Checkpointing to Implement Recoverable Distributed Shared Memory," *Proceedings of the 12th IEEE Symposium on Reliable Distributed Systems*, Princeton, NJ, pp. 58-67, October 1993.

### **Recent Professional Activity**

Invited Talk on Next-Generation Digital Forensics, USENIX Annual Technical Conference, Boston, MA, 2008.

Invited Talk on Next-Generation Digital Forensics, Polytechnique Montréal, Montreal, QC, 2008.

Program Committee, *3rd Annual Workshop on Digital Forensics and Incident Analysis* (WFDIA 2008).

Program Committee, *First International Conference on Information Security and Assurance* (ISA 2008), Busan, Korea, April 24-26, 2008.

Program Committee, IEEE GLOBECOM 2008 Communications Software and Services Symposium, New Orleans, LA, December 1-4, 2008.

Program Committee, *4<sup>th</sup> IET International Conference on Intelligent Environments* (IE 08), Seattle, WA, July 21-22, 2008.

Invited talk on Digital Forensics Research, Mississippi State University, Monday, October 8, 2007.

Invited talk on Digital Forensics, Information Systems Audit and Control Association (ISACA), New Orleans Chapter, New Orleans, LA, November 8, 2007.

Full Day Tutorial on "Live Forensics" (with Frank Adelstein), *USENIX Security 2007*, Boston, MA, August 2007.

Executive Committee, *7<sup>th</sup> Annual Digital Forensics Research Workshop* (DFRWS 2007), Pittsburgh, PA, August 13-15, 2007.

Program Committee, *2<sup>nd</sup> Annual Workshop on Digital Forensics and Incident Analysis* (WDFIA 2007), Samos, Greece, August 27-28, 2007.

Program Committee, *3<sup>rd</sup> IET International Conference on Intelligent Environments* (IE07), Ulm University, Germany, September 24-25, 2007.

Program Committee, *Third International Security Symposium on Information Assurance and Security* (IAS07), Manchester, UK, August 29-31, 2007.

Program Committee, *Malware Workshop 2007* (held in conjunction with IPCCC 2007), New Orleans, LA, April 11-13, 2007.

Program Committee, *First International Workshop on Smart Homes for Tele-Health*, Niagara Falls, Canada, 2007.

Program Committee, *2007 Information Resources Management Association (IRMA) International Conference*, Vancouver, Canada.

Local Arrangements Chair, *IEEE International Performance, Computing, and Communications Conference* (IPCCC 2007), New Orleans, LA, April 11-13, 2007.

Full Day Tutorial on "Live Forensics" (with Frank Adelstein), Twenty-Second

Annual Computer Security Applications Conference (ACSAC), 2006, Miami, FL.

General Chair, *IEEE International Performance, Computing, and Communications Conference* (IPCCC 2006), Phoenix, AZ.

Program Committee Member, *Second International Workshop on Wireless Security and Privacy*, Columbus, OH, 2006.

Program Committee, Wireless Security and Privacy Workshop (WiSPr 2006).

Invited lecture series on Digital Forensics, University of Texas at Austin, December 6-8, 2005.

Invited lecture on Digital Forensics, Annual Gathering of MENSA, New Orleans, 2005.

Program Chair, *2005 Digital Forensics Research Workshop (DFRWS 2005)*, New Orleans, LA.

Vice General Chair, *IEEE International Performance, Computing, and Communications Conference* (IPCCC 2005), Phoenix, AZ.

Program Committee Member, *Workshop on Internet Compatible QoS in Ad hoc Wireless Networks* (IC-QAWN 2004).

Program Chair, *IEEE International Performance, Computing, and Communications Conference* (IPCCC 2004), Phoenix, AZ.

Invited panel on trends in computer forensics tools, *Digital Forensics Research Workshop* (DFRWS 2003), Cleveland, OH, August 2003.

Program Committee Member, *First International Workshop on Wireless Security and Privacy*, Kaohsiung, Taiwan, October 2003.

Invited Lecture on Service Discovery Protocols, Wayne State University, October 2002.

Reviewer for numerous conferences, publishers, funding organizations, and journals, including *IEEE Transactions on Computers*, *Journal of Parallel and Distributed Computing* (JPDC), *Software Practice and Experience* (SPE), *IEEE Computer*, *Computers and Digital Techniques*, *International Conference on Communications* (ICC), *International Conference on Distributed Computing Systems* (ICDCS), *Hawaii International Conference on Systems Sciences* (HICSS), *Symposium on Reliable Distributed Systems* (SRDS), *International Performance, Computing and Communication Conference* (IPCCC), *Digital Forensics Research Workshop*, *IFIP Conference on Digital Forensics*, *O'Reilly*, *National Science Foundation*.

### **Pending Grants/Contracts**

- "A Laboratory for Next-Generation Information Assurance Instruction and Research," Louisiana Board of Regents Support Fund Enhancement Program, PI, 2008, \$181,944.

### **Funded Grants/Contracts**

PI, Co-PI, or equivalent:

- "Analysis of the Stennis Army Ammo Plant as a Multi-Agency Shared Services Center for Information Processing and Storage," SPAWAR, Navy, Contract # NOLA N69250-08-D-0302, TO0001, co-PI (with K. R. Walsh, S.

Mahesh, C. Trumbach, K. Watson, J. Speyrer, V. Roussev, G. G. Richard III, S. Dellande), 2008, \$998,289.

- “Information Assurance Scholarships”, NSA/DHS, PI (with V. Roussev, J. Nino, J. Deng), 2008-2009, \$113,494. Covers full scholarships + associated costs + travel for (3) UNO students.
- STARS Alliance, PI, subcontract from UNC Charlotte through NSF, 2008-2010, \$67,437.
- REU Supplement for “CT-ISG: A Comprehensive Data Carving Architecture for Digital Forensics,” National Science Foundation, PI, 2008, \$6,000.
- “An Integrated Interface for Secure Computing,” US Navy, PI, 2008, \$94,400.
- “Research in Information Assurance,” National Security Agency, PI, 2007-2008, \$43,228.
- “Development of Routing Protocols for Wireless Ad Hoc Networks Incorporating Airborne Backbone Networks,” 2006-2008, contract with Technology International of Virginia, \$114,900.
- “CT-ISG: A Comprehensive Data Carving Architecture for Digital Forensics,” National Science Foundation, PI, 2006-2009, \$260,697.
- “Intelligent Information Systems Laboratory for Research and Instruction,” Louisiana Board of Regents Support Fund Enhancement Program, co-PI, 2006, \$100,000.
- “A Laboratory for Applied Computer Forensics Instruction and Research,” Louisiana Board of Regents Support Fund Enhancement Program, PI, 2003, \$65,000.
- "Central Gulf Coast Regional Computer Forensics Laboratory Project" (with R. Dupont (PI), P. Scharf, R. Stellingworth, M. Abdelguerfi), National Institute of Justice, Project #16564, Crime Laboratory Improvement Program, U.S. Department of Justice, 2002, \$1,449,230.
- “Going Wireless: An Infrastructure for Wireless Mobile Computing Research and Instruction,” Louisiana Board of Regents Support Fund Enhancement Program, PI, 2000, \$87,000.
- “TCP Enhancements for Space Communication,” LaSPACE, PI, Summer 2000, \$13,841.
- “A Testbed for Experimental Evaluation of Distributed Process Recovery Mechanisms,” Louisiana Education Quality Support Fund, PI, June 1997-June 2000, \$94,455.
- “A High Performance Computing Environment for Concurrency Research and Development,” Louisiana Education Quality Support Fund, co-PI, June 1997-June 1998, \$192,000.
- “A System and Network Administration Laboratory,” Louisiana Education Quality Support Fund, co-PI, June 1997-June 1998, \$85,000.
- “A Research and Teaching Laboratory for Distributed/Concurrent Computing,” Louisiana Education Quality Support Fund, co-PI, June 1997-June 1998, \$90,000.

Participant:

- SBIR Phase I w/ Technology International of Virginia, “Development of Routing Protocols for Wireless Ad Hoc Networks Incorporating Airborne Backbone Networks,” expert consultant, 2005, \$100,000.
- SBIR Phase I w/ ATC-NY, “Intrusion Detection for 802.11-based Wireless Networks,” expert consultant, 2004, \$100,000.
- SBIR Phase I w/ Technology International of Virginia, “Strategies for Software Protection of Sensitive Military Software,” expert consultant, 2004, \$100,000.
- SBIR SOCOM Phase I w/ Technology International of Virginia, “Design of Portable, Wireless Wrist and Head-mounted Displays,” expert consultant, 2003, \$100,000.
- SBIR Phase I w/ Technology International of Virginia, “Development of Wireless LAN Design & Validation Tools,” expert consultant, 2002, \$100,000.
- SBIR Phase I w/ Technology International of Virginia, “Tools for Presentation of Visual Transitions of Audio Inputs from Music,” expert consultant, 2001, \$60,000.
- “Affordable Crime Mapping and Information Sharing Technology for Community Police Officers,” National Institute of Justice, participant, \$203,328, 1997.

**Significant Achievements**

Coordinated application of the University of New Orleans for recognition as a Center of Academic Excellence by the National Security Agency and Department of Homeland Security. Certification awarded 6/2006. The Networking, Security, and Systems Administration Laboratory (NSSAL), co-directed by Golden G. Richard III and Vassil Roussev, is the designated Center for Information Assurance Education at the University of New Orleans

Nominated for the Louisiana Technology Council’s Tech Educator of the Year Award, 2005.

Created the Computer Science Department’s digital forensics program, including creation of a state-of-the-art laboratory and a course sequence in digital forensics (undergraduate/graduate).

Selected by New Orleans City Business Magazine as a member of the 2002 New Orleans “Power Generation”, a group of “under 40s” in the New Orleans area making a significant impact in the community.

Developed graduate courses in distributed systems (CSCI 6450, Principles of Distributed Systems), distributed fault tolerance (CSCI 6990, Fault Tolerance and Reliability in Distributed Systems), and mobile computing (CSCI 6990, Introduction to Mobile Computing).

Developed CSCI 4402, Operating Systems II, an intensive undergraduate course in operating systems internals.

Through a Board of Regents Enhancement Grant, designed and implemented a building-wide 802.11b wireless networking infrastructure for the Mathematics Building at the University of New Orleans in 1999. This network provides 24 hour a

day 11Mb/sec wireless connectivity to the entire building and surrounding grounds. This is no longer a “big deal”, but in 1999 was the first wireless infrastructure at the University of New Orleans.

Consistently rated as a favorite instructor in the Computer Science Department in graduate and undergraduate exit interviews and per-semester student evaluations.

#### **Ph.D. Students (Graduated)**

Abdul Altalhi, “Virtual Paths Routing: A Highly Dynamic and Adaptive Routing Protocol for Ad Hoc Wireless Networks”, 2004.

#### **Ph.D. Students (Major Advisor, In Progress)**

1. Lawrence Klos, major area of research: reliable multicast in wireless ad hoc networks. Expected date of graduation: 2008.
2. Yun Gao, major area of research: digital forensics.
3. Lodovico Marziale, major area of research: digital forensics, next-generation file carving.
4. Aleksander Zoranic, major area of research: multi-tier ad hoc routing protocols.
5. Joseph Hua, major area of research: digital forensics.
6. Salman Javaid, major area of research: high-performance database support for digital forensics.
7. Paul Flowers, major area of research: digital forensics.

#### **M.S. Students (Graduated)**

1. Sanjeeb Mishra, “Keyword Indexing and Searching for Large Forensics Targets using Distributed Computing”, 2007.
2. Paul Flowers, “Crowds and Anonymous FTP”, 2007.
3. Swaroop Kumar Pedda Reddy, “Steganalysis Techniques: A Comparative Study”, 2007.
4. Shoban Pattam, “Enhancing Security in 802.11 and 802.1X Networks with Intrusion Detection”, 2005.
5. Jiangpeng Shi, “A Wearable Personal Data Information Capture System”, 2004.
6. John Vigo, “WIDS: A Wireless Intrusion Detection System”, 2004.
7. Ping Jin, “Two-Factor Authentication for Linux PDAs”, 2004.
8. Jyothi Chitiprolu, “Three Factor Authentication Using a Java Ring and Biometrics”, 2004.
9. Seema Sharma, “Location Based Authentication”, 2004.
10. Sonal Mandelecha, “A Prototype Digital Forensics Repository”, 2004.
11. Michel Gertraide, “Security for 802.11 Wireless Networks”, 2003.
12. Srivratsa. Gundala, “Creating a Portable Wireless Display”, 2003.

13. Rui Xia, "VNC Services on Bluetooth Wireless Networks", 2003.
14. Vivek Chinta, "UBITOUR : A 3G/WLAN Architecture for Supporting E-Tourism", 2003.
15. Yun Gao, "Telnet Multimedia Protocol", 2003.
16. Jeevan Kale, "A Service Discovery-enabled LCD Projector Device", 2002.
17. Paul Gonin, "Security and Performance Audit for 802.11 Networks", 2002.
18. Boan Xiao, "Jini-enabled Tracking and Communication for Field Missions", 2002.
19. Abdul Alarifi, "An Integrated Approach for Julep Visualization", 2001.
20. Minoo Singh, "A Closer Look at Jini and UPnP", 2002.
21. Konrad Rzeszutek, "A Dynamic, Scalable Face Recognition System Security Framework", 2002.
22. Hui Jiang, "Visualization Tools for the Louisiana Coastal Mapping Initiative", 2000.
23. Basem Binshafi, "Visualization of Distributed Algorithms", 2000.
24. Ali Alghamdi, "Visualizing Group Communication in the Julep System", 2000.
25. Jianjeng Feng, "GPS-based Location Management for the Julep System", 2000.
26. Yunao Meng, "A Java-based Agent System for the Palm Series PDA", 2000.
27. Baxish Sheth, "Online Material Management Exchange System", 2000.
28. Sean Duclaux, "A Distributed Implementation of a Geographical Information System", 1998.
29. Banghe Xing, "Crime Mapping for the New Orleans Police Department", 1998.
30. Zhidong Xu, "Toward Experimental Evaluation of Distributed Process Recovery Mechanisms", 1998.
31. Mohammed Al-Garni, "Multicast Tree Generation in Point-to-Point Networks", 1998.
32. Abdul Altalhi, "Parallel Programming with a Fault Tolerant Object Space", 1998.
33. Idrees Shaikh, "An Experimental Evaluation of Vector Time Mechanisms", 1997.
34. Samir Muranjan, "Fault Tolerance in Distributed Shared Memory", 1997.
35. Dan Stocker, "Expert Systems and the Single Systems Administrator", 1996.

**M.S. Students (Graduated, Thesis Committee Member)**

1. Shashidhar Sorakayala, "Preferences in Musical Rhythms and Implementation of Analytical Results to Generate Rhythms", 2008.
2. Shilpa Bhatt, "An RPC Facility for Service Discovery on Wireless Sensor Networks" (Wayne State University), 2008.

3. Eric Normand, "A Semi-Supervised Information Extraction Framework for Large Redundant Corpora", 2008.
4. John Finigan, "Spatiotemporal Indexing with the M-Tree", 2008.
5. Mitsuru Tanaka, "Classifier System Learning of Good Database Schema", 2008.
6. Shiquan Fu, "A Disaster Response System," 2007.
7. Mandeep Kaur, "Evaluation of Service Discovery in Wireless Sensor Networks" (Wayne State University), 2007.
8. Matthew Landry, "Analysis of Nanopore Detector Measurements using Machine Learning Methods with Application to single-molecule Kinetics", 2007.
9. Timothy Bourq, "Bloom Filters for Filesystem Forensics," 2006.
10. "Evaluation of Expressions with Uncertainty in Databases", 2006.
11. Daniel Tingstron, "Cheetah: An Economical Distributed RAM Drive", 2005.
12. Aravinth Kumar Nallusamy, "An Effective Dynamic Handoff Support for Mobile Media Networks", 2005.
13. Juan Gabriel Perez Priego, "Ad-hoc Sharing for Palm Devices", 2005.
14. Lee McKinney, "A Personnel-Driven Mini Assessment Approach for Supporting Continuous System and Software Process Improvement", 2004.
15. Fareed Qaddoura, "Dynamic Website and Data Engine generators for the Distributed Enterprise/Business Architectures", 2004.
16. Mark Walton, "The Implementation of Database Connectivity in the Wizcell Programming Language", 2004.
17. Shujing Shu, "Towards Integration of General Web services and OGC Web Services", 2003.
18. Ying Wu, "Experiments on Integration of GIS COTS Software", 2003.
19. Damon Hanchey, "Applications In Wizcell, a Cellular Programming Language", 2002.
20. Dan Liu, "Enabling Clients Behind Firewalls to Access Jini Services", 2002.
21. Jeremie Allard, "Functional and Structural Recursion in Spreadsheet Languages", 2002.
22. Haitao Li, "Toward GIS View Services Using Enterprise Java Beans for Gíreles Clients", 2002.
23. Jie Yao, "Open System Software Design Using Java Connector Architecture: Implementation of a Resource Adapter to Access a Jini Video Service", 2001.
24. Venkata Mahadevan, "Benchmarking Data Replication Performance for the Defense Integrated Military Human Resources System (DIMHRS)", 2001.

25. David Olivier, "Spatial Binary Large Objects (Spatial Blobs): The Incorporation of Large Volume Meteorological Data into an Object-Oriented Spatial Database", 2001.
26. Mingyu Wu, "Performance Evaluation of Predictive Handoff Schemes in Cellular Networks", 2001.
27. X. He, "Distribution of Large GIS Maps for Internet Users", 2001.
28. Julie Givaudan, "The 2-3TR-tree, a Trajectory-Oriented Index Structure for Fully Evolving Valid-Time Spatio-Temporal Datasets", 2001.
29. X. Fan, "A Jini-Based Framework for Developing Training Software", 2000.
30. Chunlan Wang, "CORBA Wrapper Objects for Legacy Databases", 2000.
31. G. Souza, "A Crash Recovery Platform Using Jini", 2000.
32. Mohammed Haider, "Development of a Public Access Geographic Information System for Tracking Predators and Offenders in the State of Florida", 2000.
33. D. Cai, "An EJB Implementation of a Simplified Military Personnel Information System", 2000.
34. X. Li, "A Performance-Oriented Web Publishing Framework for Complex GIS Contents", 2000.
35. Udaykiran Katikaneni, "Fine Tuning and Web-Enabling SPIN (Ship's Performance Indicator)", 1999.
36. Elizabeth Warner, "Design and Implementation of a Web Site System to Query a GIS Database via Interactive Maps", 1999.
37. Farhad Khoubehi, "Design and Development of a Case Management Database for the New Orleans Police Department", 2000.
38. Shiyin Liu, "Towards the Design of a Case Management System for the New Orleans Police Department", 1999.
39. Hugo van de Graaf, "A Framework of Dynamic Token Rings Using CORBA ORB in Java", 1999.
40. Thomas Terwiel, "Design Principles of Object-Oriented Libraries", 1999.
41. Edward Drinkert, "A Framework-based Approach to the Development of Graphical User Interfaces", 1998.
42. Srikanth Patibanda, "Design and Development of an Environmental Database for Lake Pontchartrain", 1998.
43. Shengxi Zhou, "Java Implementation of Communication Mechanisms and a Comparative Study", 1997.
44. Cheng Liu, "Implementation of Asynchronous Computing with Java Client/Server Sockets", 1997.
45. Kuan-Chun Liu, "A Comparative Study in Java Animation Programming", 1997.

46. Rickie Loggins, "Management Systems for Heterogenous Distributed Computing Environments: A Case Study", 1995.
47. Thomas Mellin, "Asynchronous Transfer Mode, The Future of Networking, Internetworking, and High-Bandwidth Technology", 1996.
48. Karen Heath, "Authoring Tools to Aid Development of Java-enhanced Educational Software", 1996.
49. Zhaoxia Huang, "A Java Class Library for Distributed Real-time Systems", 1996.
50. George North, "Ubiquitous Software: An Information Network Paradigm", 1996.
51. Daniel Dickinson, "Developing Software for Computer-assisted Writing Instruction", 1997.
52. Henry Parrish, "User Interface Intellectual Rights and Their Effects on Software Reuse", 1996.

**M.S. Students (Major Advisor, In Progress)**

1. Brian Roux, major area of research: applying bioinformatics techniques to fragmented file carving.
2. Ricardo Aguirre, wireless sensor networks.

**Teaching**

<u>Term</u>	<u>Course Number</u>	<u>Title</u>
Fall 1994	CSCI 4631	Principles of Computer Graphics
Spring 1995	CSCI 2120	Software Design II
Spring 1995	CSCI 2120	Software Design II
Spring 1995	CSCI 4401	Principles of Operating Systems I
Fall 1995	CSCI 2120	Software Design II
Fall 1995	CSCI 2120	Software Design II
Fall 1995	CSCI 4401	Principles of Operating Systems I
Spring 1996	CSCI 4401	Principles of Operating Systems I
Spring 1996	CSCI 4631	Principles of Computer Graphics
Fall 1996	CSCI 4401	Principles of Operating Systems I
Fall 1996	CSCI 6450	Principles of Distributed Systems
Spring 1997	CSCI 4401	Principles of Operating Systems I
Spring 1997	CSCI 6411	Topics in Fault Tolerance and Reliability
Spring 1997	CSCI 3080/90	Undergraduate Seminar/Ethics
Fall 1997	CSCI 4401	Principles of Operating Systems I
Fall 1997	CSCI 4631	Principles of Computer Graphics
Spring 1998	CSCI 4401	Principles of Operating Systems I
Spring 1998	CSCI 4402	Principles of Operating Systems II
Fall 1998	CSCI 4401	Principles of Operating Systems I
Fall 1998	CSCI 6450	Principles of Distributed Systems
Spring 1999	CSCI 4401	Principles of Operating Systems I
Spring 1999	CSCI 4402	Principles of Operating Systems II
Fall 1999	CSCI 4401	Principles of Operating Systems I
Fall 1999	CSCI 4402	Principles of Operating Systems II

Spring 2000	CSCI 4401	Principles of Operating Systems I
Spring 2000	CSCI 6361	Topics in Mobile Computing
Fall 2000	CSCI 4401	Principles of Operating Systems I
Fall 2000	CSCI 6450	Principles of Distributed Systems
Spring 2001	CSCI 4401	Principles of Operating Systems I
Spring 2001	CSCI 4402	Principles of Operating Systems II
Fall 2001	CSCI 4401	Principles of Operating Systems I
Fall 2001	CSCI 6450	Principles of Distributed Systems
Spring 2002	CSCI 4401	Principles of Operating Systems I
Spring 2002	CSCI 6361	Topics in Mobile Computing
Fall 2002	CSCI 4402	Principles of Operating Systems I
Fall 2002	CSCI 4621	Introduction to Computer Security
Spring 2003	CSCI 6450	Principles of Distributed Systems
Spring 2003	CSCI 6361	Topics in Mobile Computing
Fall 2003	CSCI 4621	Introduction to Computer Security
Fall 2003	CSCI 4402	Principles of Operating Systems II
Spring 2004	CSCI 4623	Introduction to Digital Forensics
Spring 2004	CSCI 6450	Principles of Distributed Systems
Fall 2004	CSCI 4621	Introduction to Computer Security
Fall 2004	CSCI 6361	Topics in Mobile Computing
Spring 2005	CSCI 4623	Introduction to Digital Forensics
Spring 2005	CSCI 4402	Principles of Operating Systems II
Fall 2005	CSCI 4621	Introduction to Computer Security
Fall 2005	CSCI 6621	Advanced Digital Forensics and Network Security
Spring 2006	CSCI 4623	Introduction to Digital Forensics
Spring 2006	CSCI 6361	Topics in Mobile Computing
Fall 2006	CSCI 4621	Introduction to Computer Security
Fall 2006	CSCI 6621	Advanced Digital Forensics and Network Security
Spring 2007	CSCI 4623	Introduction to Digital Forensics
Spring 2007	CSCI 6361	Topics in Mobile Computing
Fall 2007	CSCI 4621	Introduction to Computer Security
Fall 2007	CSCI 6621	Advanced Digital Forensics and Network Security
Spring 2008	CSCI 4402	Principles of Operating Systems II
Spring 2008	CSCI 4623	Introduction to Digital Forensics
Fall 2008	CSCI 4621	Introduction to Computer Security
Fall 2008	CSCI 6621	Advanced Digital Forensics and Network Security

### **Recent Collaborations**

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Additional references are available upon request.