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EDUCATION

- Doctor of Philosophy, Computer Science, Mar. 1987. The Ohio State University, Columbus, Ohio.
- Master of Science, Computer Science, June 1982. Michigan State University, East Lansing, Michigan.
- Bachelor of Arts, Mathematics, May 1980. Boston College, Chestnut Hill, Massachusetts.

ACADEMIC EXPERIENCE

- Full Professor, Computer Science & Engineering Department, The University of Connecticut, Storrs, Connecticut, Aug. 2001 to present.
- Co-Director of Research, Biomedical Informatics Division, Center for Quantitative Medicine, Sept. 2008 to May 2017.
- Associate Department Head, Computer Science & Engineering Department, The University of Connecticut, Storrs, Connecticut, July 2003 to August 2008.
- Associate Professor, Computer Science & Engineering Department, The University of Connecticut, Storrs, Connecticut, Sept. 1993 to Aug. 2001.
- Assistant Professor, Computer Science & Engineering Department, The University of Connecticut, Storrs, Connecticut, Sept. 1987 to Aug. 1993.
- Adjunct Research Instructor, Department of Computer Science, Naval Postgraduate School, , California 93943, Oct. 1983 to June 1987. Responsible for managing and directing a 6-12 person research project.

INDUSTRIAL CONSULTING

- Serebrum Corporation, Iselin, NJ, received an NSF SBIR Phase I titled: BrainStorm - Collaborative Customer Requirements Elicitation for Distributed Software Development. Design consultant in the area of role-based access control and security for web-based applications, July 1, 2006 to Jan. 31, 2007.
- Getronics Corporation, New York City, NY. Design and development expert in the areas of object-oriented design, UML, software architectural design, client/server multi-tier architectures, and technology assessment, Nov. 1999 to June 2005.
- Pitney Bowes, Inc., Shelton, CT, Design and development expert in the areas of object-oriented: design, software engineering, databases, and programming, for a client-server system for postage over the Internet, May 1995 to Dec. 1995.

HONORS AND AWARDS

- UConn School of Engineering Outstanding Teaching Award, April 2004.
- Elected as Member, Connecticut Academy of Science & Engineering, May 2007.

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PUBLICATIONS

Edited Collections, Monograph, Dissertation

1. *Software Engineering: Effective Teaching and Learning Approaches and Practice*, Ellis, H., Demurjian, S., and Naveda, F. (eds). IGI Global. Collection of 20+ articles, Sept. 2008.
2. *Database Security, IX: Status and Prospects*, Spooner, D., Demurjian, S., and Dobson, J. (eds.), Springer, Jan. 1996.
3. Demurjian, S., Hsiao, D., and Marshall, R., *Design-Analysis and Performance-Evaluation Methodologies for Database Computers*, monograph, Prentice-Hall, Inc., May 1987.
4. Ph.D. Dissertation: "The Multi-Lingual Database System - A Paradigm and Test-Bed for the Investigation of Data-Model Transformations, Data-Language Translations and Data-Model Semantics"; Co-Advisors: David K. Hsiao and Douglas S. Kerr.

Journal Articles and Book Chapters

1. Berhe, S., Demurjian, S., Pavlich-Mariscal, J., Saripalle, R., and De la Rosa Algarin, A., "Chapter 42: Leveraging UML for Access Control Engineering in a Collaboration on Duty and Adaptive Workflow Model that Extends NIST RBAC," in *Research Anthology on Recent Trends, Tools, and Implications of Computer Programming (4 Volumes)*, (pp. 916-939), IGI Global, August 2020. <https://www.igi-global.com/chapter/leveraging-uml-for-access-control-engineering-in-a-collaboration-on-duty-and-adaptive-workflow-model-that-extends-nist-rbac/261061>
2. Moussa, M., and Demurjian, S., "Chapter 84: Differential Privacy Approach for Big Data Privacy," in Healthcare. In Management Association, I. (Ed.), *Web Services: Concepts, Methodologies, Tools, and Applications* (pp. 1623-1645). IGI Global, July 2020. <https://www.igi-global.com/gateway/chapter/217905>
3. Ziminski, T., Demarion, S., Sanzi, E., Baihan, M. and Agresta, T., "Chapter 14: An Architectural Solution for Health Information Exchange," in *Virtual and Mobile Healthcare: Breakthroughs in Research and Practice*, Information Resources Management Association (USA), pp. 283-327, IGI Global, July 2020. <https://www.igi-global.com/gateway/chapter/235317>
4. K. Rivera Sánchez, Y., Demurjian, S., Conover, J., Agresta, T., Shao, X., and Diamond, Michael, "Chapter 13: Role-Based Access Control for Mobile Computing and Applications," in *Information Diffusion Management and Knowledge Sharing: Breakthroughs in Research and Practice*, Information Resources Management Association (USA), IGI, pp. 253-276, July 2020. <https://www.igi-global.com/gateway/chapter/242134>
5. El Guemhioui, K. and Demurjian, S., "Chapter 29: Semantic Reconciliation of Electronic Health Records Using Semantic Web Technologies," in *Data Analytics in Medicine: Concepts, Methodologies, Tools, and Applications(4 Volumes)*, M. Khosrow-Pour, S. Clarke, M. E. Jennex, A.-V. Anttiroiko (eds.), pp. 528-550, January 2020. <https://www.igi-global.com/chapter/semantic-reconciliation-of-electronic-health-records-using-semantic-web-technologies/243131>
6. K. Rivera Sánchez, Y. and Demurjian, S., "Chapter 62: Towards User Authentication Requirements for Mobile Computing," in *Data Analytics in Medicine: Concepts, Methodologies, Tools, and Applications(4 Volumes)*, M. Khosrow-Pour, S. Clarke, M. E. Jennex, A.-V. Anttiroiko (eds.), pp. 1254-1282, January 2020. <https://www.igi-global.com/chapter/towards-user-authentication-requirements-for-mobile-computing/243165>
7. K. Rivera Sánchez, Y., Demurjian, S., and Baihan, M., "A service-based RBAC & MAC approach incorporated into the FHIR standard," *Digital Communications and Networks*, Vol. 5., No. 4, pp. 214-225, November 2019, Elsevier. <https://www.sciencedirect.com/science/article/pii/S2352864817301803>

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8. Demurjian, S., Sanzi, E., Agresta, T., and Yasnoff, W., “Multi-Level Security in Healthcare using a Lattice-Based Access Control Model,” *IGI International Journal of Privacy and Health Information Management (IJPHIM)*, Vol. 7, No. 1, January-June 2019, pp. 80-102, IGI Global, <https://www.igi-global.com/article/multi-level-security-in-healthcare-using-a-lattice-based-access-control-model/219296>
9. K. Rivera Sánchez, Y., Demurjian, S., and Gnirke, L., “Attaining Role-Based, Mandatory, and Discretionary Access Control for Services by Intercepting API Calls in Mobile Systems,” In: Majchrzak T., Traverso P., Krempels KH., Monfort V. (eds) *Web Information Systems and Technologies. WEBIST 2017. Lecture Notes in Business Information Processing*, Vol. 322, June 2018, pp. 221-248, Springer. https://link.springer.com/chapter/10.1007/978-3-319-93527-0_11#citeas
10. Ziminski, T., Demurjian, S., Sanzi, E., Baihan, M. and Agresta, T., “An Architectural Solution for Health Information Exchange,” *International Journal of User-Driven Healthcare (IJUDH)*, Vol 6, No. 1, pp. 65-103, November 2016, IGI Global, <https://www.igi-global.com/article/an-architectural-solution-for-health-information-exchange/181318>
11. Baihan, M. and Demurjian, S., (2017). “An Access Control Framework for Secure and Interoperable Cloud Computing Applied to the Healthcare Domain,” in *Research Advances in Cloud Computing*, Chaudhary, Sanjay, Somani, Gaurav, Buyya, Rajkumar (Eds.), Springer, Dec. 2017, pp. 393-429. <https://www.springer.com/us/book/9789811050251>
12. Baihan, M., K. Rivera Sánchez, Y., Shao, X., Gilman, C., Demurjian, S., and Agresta, T., “A Blueprint for Designing and Developing an mHealth Application for Diverse Stakeholders Utilizing Fast Healthcare Interoperability Resources”, in *Contemporary Applications of Mobile Computing in Healthcare Settings*, R. Rajkumar (ed.), IGI Global. <https://www.igi-global.com/chapter/a-blueprint-for-designing-and-developing-m-health-applications-for-diverse-stakeholders-utilizing-fhir/204693>, pp. 85-124, January 2018.
13. Moussa, M. and Demurjian, S., “Differential Approach for Big Data Privacy in Healthcare,” Chapter 9 in *Privacy and Security Policies in Big Data*, (S. Tamane, V. Kumar Solanki, and N. Dey, eds.), pp. 191-213, March 2017, <http://www.igi-global.com/book/privacy-security-policies-big-data/176065>
14. El Guemhioui, K. and Demurjian, S., “Semantic Reconciliation of Electronic Health Records Using Semantic Web Technologies”, *International Journal of Information Technology and Web Engineering(IJITWE)*, Vol. 12, No. 2, pp. 26-48, IGI Global, April-June 2017. <https://www.igi-global.com/article/semantic-reconciliation-of-electronic-health-records-using-semantic-web-technologies/176907>
15. K. Rivera Sánchez, Y., Demurjian, S., Conover, J., Agresta, T., Shao, X., and Diamond, Michael, “An Approach for Role-Based Access Control in Mobile Applications”, [Chapter 6 in *Mobile Application Development, Usability, and Security*](#), S. Mukherja (ed.), IGI Global, November 2016. <http://www.igi-global.com/book/mobile-application-development-usability-security/154083>
16. Sanzi, E., Demurjian, S., Agresta, T., and Murphy, A., “Trust Profiling to Enable Adaptive Trust Negotiation in Mobile Devices”, [Chapter 5 in *Mobile Application Development, Usability, and Security*](#), S. Mukherja (ed.), IGI Global, November 2016. <http://www.igi-global.com/book/mobile-application-development-usability-security/154083>
17. Shao, X., Demurjian, S., and Agresta, T., “Spatio-Situation-Based Access Control Model for Dynamic Permissions on Mobile Applications,” [Chapter 7 in *Mobile Application Development, Usability, and Security*](#), S. Mukherja (ed.), IGI Global, November 2016. <http://www.igi-global.com/book/mobile-application-development-usability-security/154083>
18. Sanzi, E. and Demurjian, S., “Identification and Adaptive Trust Negotiation in Interconnected Systems,” Chapter 2 in *Innovative Solutions for Access Control Management*, A. Malik, A. Anjum, and B. Raza (eds.), (pages 33-65), May 2016. <http://www.igi-global.com/book/innovative-solutions-access-control-management/146981>
19. K. Rivera Sánchez, Y. and Demurjian, S., “Towards User Authentication Requirements for Mobile Computing,” Chapter 6 in *Innovative Solutions for Access Control Management*, A. Malik, A. Anjum, and B. Raza (eds.), (pages 160-196), May 2016. <http://www.igi-global.com/book/innovative-solutions-access-control-management/146981>

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20. Berhe, S., Demurjian, S., Pavlich-Mariscal, J., Saripalle, R., and De la Rosa Algarin, A., “Leveraging UML for Access Control Engineering in a Collaboration on Duty and Adaptive Workflow Model that Extends NIST RBAC,” Chapter 4 in *Innovative Solutions for Access Control Management*, A. Malik, A. Anjum, and B. Raza (eds.), (pages 96-124), May 2016. <http://www.igi-global.com/book/innovative-solutions-access-control-management/146981>
21. Ziminski, T., Demurjian, S., Sanzi, E. and Agresta, T., “Toward Integrating Healthcare Data and Systems: A Study of Architectural”, Chapter 16 in *Maximizing Healthcare Delivery and Management through Technology Integration*, T. Iyamu and D. Tatnall (eds.), pp 270-304, September 2015, <http://www.igi-global.com/chapter/toward-integrating-healthcare-data-and-systems/137590>
22. Sariapalle, Demurjian, Blechner, Agresta, “HOD2MLC: Hybrid Ontology Design & Development Model with Lifecycle,” *International Journal of Information Technology and Web Engineering (IJITWE)*, Vol. 10, No. 2, pp 16-42, June 2015, <http://www.igi-global.com/article/hod2mlc/138293> and <http://www.igi-global.com/journals/abstract-announcement/11846>.
23. Pavlich-Mariscal, J. Veliz-Quispe, H., Demurjian, S., and Michel, L., “A Meta-Modeling and Visualization Environment Based on Zoomable User Interfaces,” *Ingeniare Chilean Journal of Engineering*, Vol. 23, No. 2, pp 219-234, April-June 2015. http://www.ingeniare.cl/index.php?lang=en&option=com_ingeniare&Itemid=117&view=vv&vid=83
24. Demurjian, S., De La Rosa Algarin, A., Bi, J, Berhe, S., Agresta, T., Wang, X., Blechner, M., “A Viewpoint of Security for Digital Health Care: What's There? What Works? What's Needed?” in *International Journal of Privacy and Health Information Management (IJPHIM)*, 2(1), pp 1-21, December 2014: <http://www.igi-global.com/article/a-viewpoint-of-security-for-digital-health-care-in-the-united-states/120113>. Article also published as Chapter 62 in: *E-Health and Telemedicine: Concepts, Methodologies, Tools, and Applications (3 Volumes)*, Information Resources Management Association, IGI, 2016: <http://www.igi-global.com/book/health-telemedicine-concepts-methodologies-tools/127616>.
25. Pavlich-Mariscal, J., Berhe, S., De La Rosa Algarin, A. and Demurjian, S., “Chapter 15: An Integrated Secure Software Engineering Approach for Functional, Collaborative, and Information Concerns,” in, *State-of-the-Art Concepts and Future Directions in Software Engineering*, IGI Global, I. Ghani, M. Kadir, and M. Ahmad (eds.), December 2014, pp 330-368, <http://www.igi-global.com/book/handbook-research-emerging-advancements-technologies/97389>
26. De La Rosa Algarin, A., Ziminski, T., Demurjian, S., Rivera Sanchez, Y. K., “Generating XACML Enforcement Policies for Role-Based Access Control of XML Documents,” in *Web Information Systems and Technologies, Revised Selected Papers*, Lecture Notes in Business Information Processing, Springer-Verlag, Vol. 189, September 2014, pp 21-36 link.springer.com/chapter/10.1007%2F978-3-662-44300-2_2
27. Knath Saripalle, R. and Demurjian, S., “Attaining Semantic Interoperability through Ontology Architectural Patterns”, in: *Revolutionizing Enterprise Interoperability through Scientific Foundations*, Y. Charalabidis, F. Lampathaki, and R. Jardim-Goncalves (eds.), IGI Global, February 2014, Chapter 10, pp. 216-251. Book: <http://www.igi-global.com/book/revolutionizing-enterprise-interoperability-through-scientific/90542> Article <http://www.igi-global.com/chapter/attaining-semantic-enterprise-interoperability-through-ontology-architectural-patterns/101112>
28. De La Rosa Algarin, A. and, Demurjian, S., “An Approach to Facilitate Security Assurance for Information Sharing and Exchange in Big Data Applications,” in *Emerging Trends in Information and Communication Technologies Security*, B. Akhgar and H. Arabnia (eds.), Elsevier, Chapter 4, pg. 65-83. February 2014. Book: <http://www.sciencedirect.com/science/book/9780124114746> Article: <http://www.sciencedirect.com/science/article/pii/B9780124114746000049>
29. Knath Sariapalle, R., Demurjian, S., De La Rosa Algarin, A., and Blechner, M., “A Software Modeling Approach to Ontology Design via Extensions to ODM and OWL,” *International Journal On Semantic Web and Information Systems*, 9 (2), pp. 62-97, December 2013, see: Journal: <http://www.igi-global.com/journal/international-journal-semantic-web-information/1092>

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Article: <http://www.igi-global.com/article/a-software-modeling-approach-to-ontology-design-via-extensions-to-odm-and-owl/94599>

30. De La Rosa Algarin, A., Demurjian, S., Ziminski, T., Rivera Sanchez, Y. K., and Kuykendall, R., "Chapter 13: Securing XML with Role-Based Access Control: Case Study in Health Care," in *Architectures and Protocols for Secure Information Technology*, pp. 334-365, A. Ruiz-Martínez, F. Pereñíguez-García and R. Marín-López (eds.), IGI Global, September 2013, see: Book: <http://www.igi-global.com/book/architectures-protocols-secure-information-technology/76712> Article: <http://www.igi-global.com/chapter/securing-xml-with-role-based-access-control/78879> . Article also published as Chapter 25 in: *E-Health and Telemedicine: Concepts, Methodologies, Tools, and Applications (3 Volumes)*, Information Resources Management Association, IGI, 2016: <http://www.igi-global.com/book/health-telemedicine-concepts-methodologies-tools/127616>.
31. Demurjian, S., De La Rosa Algarin, A., and Saripalle, R., "Granular Computing, Information Models for," in *Encyclopedia of Complexity and Systems Science*, R. Meyers (Editor-in-Chief), Granular Computing Section, T. Y. Lin (ed.), revision and substantial update of June 2009 article Springer, July 2013, <http://www.springerreference.com/docs/mypage/book61.html> for *Encyclopedia* and see: <http://www.springerreference.com/docs/html/chapterdbid/60424.html> for article; online pub only.
32. Berhe, S., Demurjian, S., Gokhale, S., Saripalle, R., and Pavlich-Mariscal, J., "Leveraging UML for Security Engineering and Enforcement in a Collaboration on Duty and Adaptive Workflow Model That Extends NIST RBAC," in *Research Directions in Data and Applications Security XXV*, Y. Li (ed.), LNCS 6818, Springer, July 2011, pp. 293-300.
33. Pavlich-Mariscal, J., Demurjian, S., and Michel, L., "A Framework for Security Assurance of Access Control Enforcement Code," *Computer & Security Journal*, Vol. 29, No. 7, Oct. 2010, pp. 770-784, Elsevier EES.
34. Pavlich-Mariscal, J., Demurjian, S., and Michel, L., "A Framework of Composable Security Features: Preserving Separation of Security Concerns from Models to Code," *Computer & Security Journal*, special issue on Software Engineering for Secure Systems, Vol. 29, No. 3, May 2010, pp. 350-379, Elsevier EES.
35. Doan, T., Demurjian, S., Michel, L., and Berhe, S. "Integrating Access Control into UML for Secure Software Modeling and Analysis", in: *International Journal of Secure Software Engineering*, IGI Global, Vol. 1, No. 1, Jan.-March 2010, pp. 1-19.
36. Demurjian, S., Ren, H., Berhe, S., Devineni, M., Vegad, S., and Polineni, K., "Chapter 24: Improving the Information Security of Collaborative Web Portals via Fine-Grained Role-Based Access Control," in *Handbook of Research on Web 2.0, 3.0 and X.0: Technologies, Business and Social Applications*, S. Murugesan (ed.), a volume of the *Advances in E-Business Research Series*, IGI Global, Apr. 2010, pp. 430-448.
37. Crowell, R., Agresta, T., Cook, M., Fifield, J., Demurjian, S., Carter, S., Becerra-Ortiz, I., Vegad, S., and Polineni, K., "Chapter 39: Using a Collaborative Web Portal for Making Health Information Technology (HIT) Decisions," in *Handbook of Research on Web 2.0, 3.0 and X.0: Technologies, Business and Social Applications*, a volume of the *Advances in E-Business Research Series*, S. Murugesan (ed.), IGI Global, Apr. 2010, pp. 862-698.
38. Demurjian, S., "Assessment of Candidate Information Models for Granular Computing," *International Journal of Granular Computing, Rough Sets, and Intelligent Systems (IJGCRSIS)*, Vol. 1., No. 1, July 2009, pp. 1-20.
39. Berhe, S., Demurjian, S., and Agresta, T. "Emerging Trends in Health Care Delivery: Towards Collaborative Security for NIST RBAC," in *Research Directions in Data and Applications Security XXIII*, E. Gudes and J. Viadya (eds.), LNCS 5645, Springer, July 2009, pp. 283-290.
40. Demurjian, S., "Granular Computing, Information Models for," in *Encyclopedia of Complexity and Systems Science*, R. Meyers (Editor-in-Chief), Granular Computing Section, T. Y. Lin (ed.), Springer, June 2009, pp. 4305-4313.
41. Demurjian, S. and D. Needham, "Experiences in Project-Based Software Engineering - What Works,

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- What Doesn't," in: *Software Engineering: Effective Teaching and Learning Approaches and Practice*, H. Ellis, S. Demurjian, and F. Naveda (eds.), IGI Global, Sept. 2008, pp. 191-212.
42. Ammar, R., Demurjian, S., Greenshields, I., Pattipati, K., and Rajasekaran, S., "Analysis of Heterogeneous Data in Ultrahigh Dimensions," in *Emergent Information Technologies and Enabling Policies for Counter Terrorism*. R. Popp and J. Yen (eds.), IEEE Press Series on Computational Intelligence, D. Fogel (series ed.), 2006, pp. 105-121.
 43. Pavlich-Mariscal, J., Michel, L., and Demurjian, S., "A Framework for Composable Security Definition, Assurance, and Enforcement," *Satellite Events at the MoDELS 2005 Conference, MoDELS 2005 International Workshops, Doctoral Symposium, Educators Symposium*, LNCS 3844, Springer, Oct. 2005, pp. 353-354.
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 45. Phillips, C., Demurjian, S., and Bessette, K., "A Service-Based Approach for RBAC and MAC Security," in *Service-Oriented Software System Engineering: Challenges and Practices*, Z. Stojanovic and A. Dahanayake (eds.), Idea Group, Apr. 2005, pp. 317-339.
 46. Needham, D., Caballero, R., Demurjian, S., Eickhoff, F., Mehta, J., and Zhang, Y., "A Reuse Definition and Analysis Framework for UML," in *Advances in UML and XML based Software Evolution*, H. Yang (ed.), Idea Group, Apr. 2005, pp. 286-307.
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 48. Demurjian, S. and Pia, P., "Object-Oriented Software Design," in *Computer Science Handbook*, 2nd edition, CRC Press, Inc., A. Tucker (ed.), June 2004, pp. 104-1 - 104-20; CD-ROM Edition, Nov. 2004.
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 53. Price, M., Needham, D., and Demurjian, S., "Producing Reusable Object-Oriented Components: A Domain-and-Organization-Specific Perspective," *ACM SIGSOFT Software Engineering Notes*, Vol. 26, no. 3, pp. 41-50, 2001.
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103. Demurjian, S. and Hsiao, D., "New Directions in Database-Systems Research and Development," *Proc. of Intl. Sym. on New Directions in Computing*, Trondheim, Norway, Aug. 1985.
104. Demurjian, S., Hsiao, D., Kerr, D., Strawser, P., Watson, R., Menon, J., Tekampe, R., and Trimble, J. "Performance Evaluation of a Database System in Multiple Backend Configurations," *Database Machines, 4th Intl. Workshop*, D. DeWitt and H. Boral (eds.), Springer, Mar. 1985.
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106. Forsythe, J., Signell, G., Giddings, L., Demurjian, S., and Kaiser., G. "QUGEN - A Simplified Relational Database Retrieval Language," *Proc. of IEEE MEDCOMP 1983*, Sept. 1983.

Industrial Technical Reports

1. Final Report for Navy Phase I SBIR Project (Serebrum): A Security Framework for WIKIs. Sereburm Contributors: Krishna Polineni and Mahitha Devineni; UConn Contributors: Profs. Steven A. Demurjian and Alexander C. Russell; UConn Graduate Students: Seth Freeman and Paul Vandal Jr. This report is limited release (classified).
2. Final Report for NSF Phase I SBIR Project (Serebrum): BrainStorm – Collaborative Customer Requirements Elicitation for Distributed Software Development.
3. P. Barr and S. Demurjian, "JINI: Evaluating the Technology and Impact on Present and Future Army Systems," Mitre Working Note WN, Sept. 1999, Mitre Corporation, Eatontown, NJ.
4. P. Barr and S. Demurjian, "Security, Authorization, and Authentication for Enterprise Computing and ABCS/FDD," Mitre Working Note WN, Apr. 1998, Mitre Corporation, Eatontown, NJ.
5. P. Barr and S. Demurjian, "Software Architectures for Integrating Clients, Servers, Legacy, Database, and Commercial Off-the-Shelf (COTS) for Army Battle Command System (ABCS)/First Digital Division (FDD) ," Mitre Working Note WN, Apr. 1998, Mitre Corporation, Eatontown, NJ.
6. P. Barr, S. Demurjian, and D. G. Shin, "The Java Programming Language Impact," Mitre Working Note WN, Sept. 1997, Mitre Corporation, Eatontown, NJ.

Position Papers and Panels

1. Demurjian, S., Dyer, H. and Peters, T., "Manufacturing Informatics: Navigating the Information Superhighway," panel at *Fourth Intl. Computer Integrated Manufacturing and Automation Technology Conf.*, RPI, Oct. 1994.

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2. Song, A., Kleinman, D., Demurjian, S., and Hu, M.-Y., “A Distributed Dynamic Simulation Environment for Team Decisionmaking,” position paper, Aug. 1992; *ACM CSCW'92 Workshop on Tools and Technologies for CSCW*, Oct. 1992.
3. Demurjian, S., Beshers, G., Ammar, R., and Ting, T.C., “The SEEDS Project at The University of Connecticut,” *Proc. of Second Intl. Workshop on Computer-Aided Software Engineering*, Cambridge, MA, July 1988.
4. Ammar, R., Beshers, G., Demurjian, S., and Ting T.C., “A Bibliography on Software Development Tools in the Eighties,” *Proc. of Second Intl. Workshop on Computer-Aided Software Engineering*, Cambridge, MA, July 1988.

FUNDED RESEARCH GRANTS AND CONTRACTS

- Graduate Assistance in Areas of National Need (GAANN) in AI, Department of Education. Total Awarded: \$895,500.00. Contract Start Date October 1, 2018 - September 30, 2021. PI: S. Rajasekaran, CoPI: S. Demurjian and 8 others.
- Secure Efficient Cross-Domain Protocols - STTR AF13-AT008 Phase II Extension, Sonalysts, Inc./DoD-AFRL Extension \$223,969. PI: S. Demurjian; June 24, 2017 to March 30, 2019.
- REU: Trustable Computing Systems, National Science Foundation, \$359,409. PI: B. Wang; Co-PIs: S. Demurjian and eight others, February 2017 - January 2020.
- State of Connecticut Insurance Department Feasibility Study of Information System Reengineering: Part XIX, \$285,486, PI: S. Demurjian, co-PI: D-G. Shin, May 31, 2016 to June 30, 2017.
- State of Connecticut Insurance Department Feasibility Study of Information System Reengineering: Part XVIII, \$240,369, PI: S. Demurjian, co-PI: D-G. Shin, June 1, 2015 to June 30, 2016.
- Secure Efficient Cross-Domain Protocols, Sonalysts, Inc./Air Force, STTR AF12-AT008 Phase II, \$223,969. PI: S. Demurjian; January 21, 2015 to December 29, 2016.
- State of Connecticut Insurance Department Feasibility Study of Information System Reengineering: Part XVII, \$282,836, PI: S. Demurjian, co-PI: D-G. Shin, July 1, 2014 to June 30, 2016.
- DOD Information Assurance Scholarship Program, Department of Defense, \$142,876. PI: J Chandy, Co-PIs: S. Demurjian and M. Tehranipoor, September 3, 2013 to September 2, 2014.
- REU: Trustable Computing Systems, National Science Foundation, \$359,409. PI: J. Chandy, Co-PIs: S. Demurjian and eight others. February 15, 2014 to January 31, 2017.
- Expanding Consumer and Community Water Protection Efforts Through Innovative and Integrated Mobile Technologies, USDA National Institute of Food and Agriculture, \$333,058. PI: M. Dietz; Co-PIs: D. Dickerson and S. Demurjian, September 1, 2013 to December 31, 2016.
- Secure Efficient Cross-Domain Protocols, Sonalysts, Inc./Air Force, STTR AF12-AT008 Phase I, \$44,597. PI: S. Demurjian; Co-PI: A. Kiayias, October 1, 2013 to July 28, 2014.
- State of Connecticut Insurance Department Feasibility Study of Information System Reengineering: Part XVI, \$250,841, PI: S. Demurjian, co-PI: D-G. Shin, May 15, 2013 to June 30, 2014.
- Medicaid Electronic Health Record (EHR) Incentive Program, UCHC prime to Department of Social Services, CSE sub-contract to UCHC, \$18,624, PI: S. Demurjian, Feb 11, 2013 to June 5, 2013.
- State Motor Vehicle Crash Data Repository, Phase III, CONN DOT, \$199,387, PI: E. Jackson; co-PIs: J. Ivan, S. Demurjian, D.G. Shin, October 1, 2012 to September 20, 2013.
- Feasibility Study of Information System Reengineering, Part XV, State of Connecticut Insurance Department, \$215,496. PIs: S. Demurjian; co-PI: D.G. Shin. May 3, 2012 to June 30, 2014.
- State Motor Vehicle Crash Data Repository, Phase II, CONN DOT, \$167,736, PI: E. Jackson; co-PIs: J. Ivan, S. Demurjian, D.G. Shin, October 1, 2011 to September 20, 2012.

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- Development of the Connecticut Motor Vehicle Crash Data Repository, CONN DOT, \$220,637, PI: E. Jackson; co-PIs: J. Ivan, S. Demurjian, D.G. Shin, October 1, 2010 to September 20, 2011.
- Feasibility Study of Information System Reengineering, Part XIV, State of Connecticut Insurance Department, \$179,292. PIs: S. Demurjian; co-PI: D.G. Shin. June 5, 2010 to June 30, 2013.
- Graduate Assistants in Areas of National Need: Advanced Computing, US Department of Education, \$522,624, PI: R. Ammar, co-PIs: S. Demurjian, S. Rajasekaran, J. Cui, and S. Zhou, August 15, 2009 to August 14, 2012.
- Project VIABLE: Validation of Instruments for Assessing Behavior Longitudinally and Efficiently, US Department of Education, Institute for Education Sciences, \$1,496,000 plus \$166,965 supplement. Co-PI and PD: S. Chafouleas; Faculty participant (on supplement only): S. Demurjian, June 1, 2008 to May 31, 2011.
- Feasibility Study of Information System Reengineering, Part XIII, State of Connecticut Insurance Department, \$235,230. PIs: S. Demurjian; co-PI: D.G. Shin. October 2, 2009 to June 30, 2010.
- Feasibility Study of Information System Reengineering, Part XII plus amendment, State of Connecticut Insurance Department, \$160,000. PIs: S. Demurjian; co-PI: D.G. Shin. July 1, 2008 to June 30, 2010; amendment for a supplement of \$33,208 added in April 2009 for a total amount of \$193,208.
- Developing a Center for Translational Health Services Research, Dongahue Foundation, University of Connecticut Health Center, \$28,585. PI: S. Demurjian. September 1, 2008 to May 31, 2009.
- Strategic Planning for HIT in Community Health Organizations, University of Connecticut Health Center, \$4,000. PI: S. Demurjian. September 1, 2008 to February 28, 2009. Part of Larger Planning Grant of Same Title from: Connecticut Health Foundation, \$381,000. PIs: J. Fifield, T. Agresta, R. Crowell; S. Demurjian (faculty participant). July 2007 to June 2009.
- Design and Development of a Web-Based Application for Youth Services Survey, State of Connecticut Department of Children and Families, \$37,950. PI: Y.-A. Kim, Co-PIs: D.G. Shin and S. Demurjian, June 1, 2008 to May 22, 2009; amendment for a supplement of \$20,550 added in December 2008 for a total amount of \$58,500.
- PDA Applications for Medical Education, UConn Health Center Department of Family Medicine, \$10,000. PI: S. Demurjian, March 1, 2008 to June 30, 2008.
- Botnet Detection and Mitigation, Sonalysts Inc., Phase II SBIR Grant from Dept. of Homeland Security, UConn sub-contract: \$229,004. PI: A. Kiayias, Co-PIs: S. Demurjian, S. Rajasakeran, R. Ammar, September 1, 2007 to August 31, 2009.
- Reverse Engineering Dcp2s Requirements, \$36,648. PI: S. Gokhale, co-PIs: S. Demurjian and R. Ammar, State of Connecticut Department of Information Technology, July 1, 2007 to January 7, 2008.
- Feasibility Study of Information System Reengineering, Part XI, State of Connecticut Insurance Department, \$303,857. PIs: S. Demurjian; co-PI: D.G. Shin. July 1, 2007 to June 30, 2008; amendment for a supplement of \$30,000 added in May 2008 for a total amount of \$333,857.
- Feasibility Study of Information System Reengineering, Part X, State of Connecticut Insurance Department, \$415,128. PIs: S. Demurjian; co-PI: D.G. Shin. July 1, 2006 to June 30, 2007.
- Development of Internet-based Computer Databases for the CT Dept. of Transportation, Connecticut Transportation Institute, CTI PI: J. Mahoney, CSE PI: S. Gokhale, CSE co-PI: S. Demurjian, , January 2005-June 2007, \$20,361.
- Botnet Detection and Mitigation, Sonalysts Inc., Phase I SBIR Grant from Dept. of Homeland Security, UConn sub-contract: \$29,863. PI: S. Demurjian, Co-PIs: A. Kiayias, S. Rajasakeran, R. Ammar, Sept. 1, 2006 to Feb. 28, 2007.
- A Security Framework for WIKIs, Serebrum Inc., Phase I SBIR Grant from Dept. of Navy, UConn sub-contract: \$20,877 (Phase I - funded). PI: S. Demurjian, Co-PI: A. Russell, July 1, 2006 to Dec. 31, 2006.

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- Feasibility Study of Information System Reengineering, Part IX, State of Connecticut Insurance Department, \$465,767. PIs: S. Demurjian; co-PI: D.G. Shin. July 1, 2005 to June 30, 2007.
- Feasibility Study of Information System Reengineering, Part VIII, State of Connecticut Insurance Department, \$394,999. PIs: S. Demurjian; co-PI: D.G. Shin. July 1, 2004 to June 30, 2007.
- Transformation Spaces: Specification and Characterization, DAPRA, \$500,000. PD: I. Greenshields. PIs: R. Ammar, S. Demurjian, B. Javadi, K. Pattipati, S. Rajasekaran, and A. Russell. Jan. 1, 2004 to Dec. 30, 2004.
- Feasibility Study of Information System Reengineering, Part VII, State of Connecticut Insurance Department, \$329,998. PIs: S. Demurjian; co-PI: D.G. Shin.. Aug. 21, 2003 to June 30, 2007.
- Feasibility Study of Information System Reengineering, Part VI, State of Connecticut Insurance Department, \$199,659. PIs: S. Demurjian and D.G. Shin. Jan. 1, 2003 to Dec. 31, 2005.
- Feasibility Study of Information System Reengineering, Part V, State of Connecticut Insurance Department, \$158,668. PIs: S. Demurjian and D.G. Shin. Mar. 15, 2002 to Dec. 31, 2005.
- Research and Prototyping of Guided Generation of Software Requirements, part of NSF SBIR Phase I Grant “Guided Generation of Software Requirements” Software Frameworks, Inc., Mystic CT, \$32,856. PI: S. Demurjian. Jan. 1, 2002 to June 30, 2002.
- Security Enforcement for IT Environments, GE Fund for IT related research, \$8,628, PI: S. Demurjian, Co-PI: T.C. Ting, Jan. 15, 2002 to June 30, 2002. (funded through School of Engineering Deanery)
- Feasibility Study of Information System Reengineering, Part IV, State of Connecticut Insurance Department, \$303,937. PIs: S. Demurjian and D.G. Shin. Feb. 13, 2001 to Dec. 31, 2005.
- Feasibility Study of Information System Reengineering, Part III, State of Connecticut Insurance Department, \$113,400. PIs: S. Demurjian and D.G. Shin. Sept. 1, 2000 to Dec. 31, 2005.
- Reusability Analysis Framework for Shipbuilding Components Modeled in EXPRESS, XML, and Java, Electric Boat, Inc., Groton, CT, \$99,502. PI: S. Demurjian; Co-PI: D. Needham, USNA. June 1, 2000 to May 30, 2002.
- Software Architectures and Database Interoperability for Distributed Systems, The Mitre Corporation, Eatontown, NJ, \$76,812. June 1, 2000 to Sept. 30, 2000. PI: S. Demurjian; Co-PIs: D.G. Shin and A. Shvartsman.
- Feasibility Study of Information System Reengineering, Part II, State of Connecticut Insurance Department, \$106,054 PIs: S. Demurjian and D.G. Shin. Sept. 1, 1999 to Dec. 31, 2005.
- JINI/JavaSpaces: Evaluating the Technology and Impact on Present and Future Army Systems, The Mitre Corporation, Eatontown, NJ, \$15,332. PI: S. Demurjian. June 1, 1999 to Sept. 30, 1999.
- Feasibility Study of Information System Reengineering, State of Connecticut Insurance Department, \$60,062. PIs: D.G. Shin and S. Demurjian. Jan. 25, 1999 to Dec. 31, 2005.
- Large-Scale, Multi-Agent, Distributed Mission Planning and Execution in Complex Dynamic Environments, AFOSR, \$774,982. PD: E. Santos, PIs: S. Demurjian, A. Shvartsman, and M. Cox. Jan. 1, 1999 to Dec. 31, 2001. UConn Funding: \$566,658. Wright State Funding: \$208,324. Note that an additional \$90,000 was funded for this project as a separate award to AFIT.
- Prototyping the Inter-TOC Data Distribution Model of Army Battle Command Systems, The Mitre Corporation, Eatontown, NJ, \$30,400. PI: D.G. Shin and Co-PI: S. Demurjian. Dec. 22, 1998 to Sept. 30, 1999.
- Interoperability Issues in Heterogeneous, Multi-Language, Multi-Process, Distributed, Client/Server Platforms, The Mitre Corporation, Eatontown, NJ, \$147,725. PIs: S. Demurjian, D.G. Shin, A. Shvartsman, and R. McCartney. Sept. 1, 1997 to Sept. 30, 1999.
- Subtask # TA97-24 The Java Programming Language: Impact upon the Army Technical Architecture (ATA)/Joint Technical Architecture (JTA), The Mitre Corporation, Eatontown, NJ, \$30,673. PIs: S. Demurjian and D.G. Shin, July 1, 1997 to Aug. 31, 1997.

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- Ada9X and Object-Oriented Design within an Enhanced Software Engineering Sequence, ARPA, \$49,099. PIs: S. Demurjian and T. Peters, May 1, 1994 to July 1, 1995.
- Integrating Ada and Object-Oriented Design within a Software Engineering Course, ARPA, \$57,309. PIs: S. Demurjian and T. Peters, May 31, 1993 to Dec. 31, 1994;
- A Normative-Descriptive Theory of Coordination in Distributed Organizations, NSF Grant #IRI-8902755, \$971,172. PIs: D. Kleinman, P. Luh, K. Pattipati, F. Maryanski, and R. Shaw; Faculty Associate: S. Demurjian, June 15, 1989 to Nov. 30, 1992.
- Object-Oriented-Paradigm Enhancements for Advanced Application Modeling and Development, The UConn Research Foundation, \$7,370.00. PI: S. Demurjian, June 1, 1990 to May 31, 1991.
- Automatic Document Dissemination System, Pacific Missile Test Center, Pt. Mugu, CA, \$23,080. PIs: S. Demurjian and D. Shin, Aug. 1, 1989 to Sept. 31, 1989.
- An Object-Oriented Graphical Programming Environment, CADWARE Ltd., New Haven, CT, \$20,000. PIs: S. Demurjian and F. Maryanski, Sept. 1, 1988 to July 1, 1989.
- Design of an Integrated System of User Profiling and Automatic Abstracting for Document Management, Pacific Missile Test Center, Pt. Mugu, CA, \$15,000. PIs: S. Demurjian, D.G. Shin, and F. Maryanski. Funded through F. Maryanski's NSF Grant #IRI8704042. June 1, 1988 to Sept. 30, 1988.
- Database Support for Computer-Aided Software Engineering, The University of Connecticut Research Foundation, \$6,900.00. PI: S. Demurjian, Jan. 1, 1988 to Aug. 31, 1989.

SEMINARS

- CIGNA Corporation, Bloomfield, CT, "Object-Oriented Design and Development," July 20, 1998, 50 attendees. This talk was the focal point, spanning over 3 hours, at CIGNA's Connecticut Systems Community Event for Early Career Hires.
- Pitney Bowes, Inc., Shelton, CT., "Introduction to Object-Oriented Programming and C++," July 20, 1995, 10 attendees.
- Professional Development Seminar Object-Oriented Design, Analyses, and C++, Aug. 15, 1994, 11 attendees, UTEB 150, University of Connecticut, Storrs, CT.
- Hartford Graduate Center (HGC), Hartford, CT, "CASE Environments and Object-Oriented Software and Database Systems," A Short Course Offered through the Professional Development Center at HGC, non-credit, July 17, 1989 to July 21, 1989.
- General Electric, Plainville, CT, "Programming in C," A Short Course for GE Employees, July 11, 1988 to July 29, 1988.

INVITED PRESENTATIONS

- Ethel Dongahue TRIPP Center, UCHC, Farmington, CT. "Using a Web-based Collaboration Portal and Wiki for Making Health Information Technology Decisions," October 2, 2008.
- International Conference on Advanced Technologies for Homeland Security (ICATHS'03), Sept. 26, 2003, "Security Issues and Solutions for Homeland Security," Storrs, CT.
- Rensselaer at Hartford, Feb. 15, 2002, "A Framework, Methodology, and Tool for Reusable Software Components," Hartford, CT.

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- Electric Boat, Inc., Aug. 28, 2001, "A Framework, Methodology, and Tool for Reusable Software Components," Groton, CT.
- Sikorsky, Inc., Aug. 21, 2001, "Research Efforts in Software Engineering," Stratford, CT.
- "JINI: A Technology for 21st Century -- Is it Ready For Prime Time?," 24th Annual Software Engineering Workshop, NASA Goddard, Greenbelt, Maryland, Dec. 2, 1999.
- The Mitre Corporation, Oct. 19, 1999, "JINI: A Technology for the 21st Century - Is it Ready for Prime Time?" Bedford, MA.
- Software Engineering Methodologies Group, Technical Specialist Meeting, Carrier World Headquarters, Oct. 14, 1999, Topic: Component Technologies, "JINI: A Technology for the 21st Century - Is it Ready for Prime Time?," Farmington, CT.
- The Mitre Corporation, Sept. 8, 1999, "JINI: Evaluating the Technology & Impact on Present & Future Army Systems," Bedford, MA.
- The Mitre Corporation, Aug. 17, 1999, "JINI: Evaluating the Technology & Impact on Present & Future Army Systems," Eatontown, NJ.
- UTECA Workshop, OTIS Elevator, Mar. 26, 1999, "Object-Oriented Design Methodology to Facilitate Reuse," Farmington, CT.
- Hamilton-Standard, Inc., Mar. 15, 1999, "Research Efforts in Computer Science & Engineering at UConn," Windsor Locks, CT.
- Warburg, Dillion, Read, Inc., Aug. 6, 1998, "Research Efforts in Computer Science & Engineering at UConn," Stamford, CT.
- Warburg, Dillion, Read, Inc., Aug. 6, 1998, "Object-Oriented Design Methodology to Facilitate Reuse," Stamford, CT.
- The Mitre Corporation, Mar. 16, 1998, "Security, Authorization, and Authentication for Enterprise Computing and ABCS/FDD," Eatontown, NJ.
- The Mitre Corporation, Mar. 16, 1998, "Software Architectures for Integrating Clients, Servers, Legacy, Databases, COTS," Eatontown, NJ.
- CIGNA Corporation, Jan. 22, 1998, "Software Architectures, Object-Oriented Paradigm, Security, Databases, Networks," Bloomfield, CT.
- The Mitre Corporation, Nov. 25, 1997, "Software Architectures for Integrating Clients, Servers, Legacy, Databases, COTS," Storrs, CT.
- The Mitre Corporation, Aug. 7, 1997, "The Java Programming Language: Impact upon the Army Technical Architecture (ATA) and Joint Technical Architecture (JTA)," Eatontown, NJ.
- Greater Hartford Chapter of ACM, June 2, 1994, "Fallacies and Realities of the Object-Oriented Paradigm in Practice".
- Pratt & Whitney, July 13, 1992, "Object-Oriented Research and Development - Towards Information Engineering," Storrs, CT.
- 1992 UTECA (United Technologies Engineering Coordination Activities) Conf. and Technology Expo, Apr. 29, 1992, "Fallacies and Realities of the Object-Oriented Paradigm in Practice," Springfield, MA.
- Greater Hartford Chapter of ACM, Nov. 9, 1991, "Introduction to Object-Oriented Databases," Hartford Graduate Center, Hartford, CT.
- The Mitre Corporation, Oct. 21, 1991, "An Analytical Framework for User-Role Based Security Specification in an Object-Oriented Design Model," Database Security Group, Bedford, MA.
- Presentation to Travelers, Inc., Feb. 7, 1991, "Object-Oriented Research and Development - The SODA Research Group," Storrs, CT.
- Pratt & Whitney, May 18, 1990, "Object-Oriented Research at The University of Connecticut," East Hartford, CT.

CURRENT SOFTWARE TOOLS/SYSTEMS

- **Security for UML.** This is a two-prong project started in Fall 2004, to support the incorporation of security into UML, the unified modeling language, for secure software design. In the first prong, an implementation/prototyping effort is in support of the Ph.D. work of T. Doan (Doan, et al., 2010) began in Fall 2003, two German Exchange students (undergraduates) working on the project. In Spring 2004, one of these students continued. The effort focused on transitioning/designing a security (role-based access control models/mandatory access RBAC/MAC) solution for software design into UML, as realized in the UML tool Together Control Center (via a series of Open APIs and the plug-in architecture that is available). In the second prong, during Fall 2003, there was research by J. Pavlich (Pavlich-Mariscal, et al., 2010a and 2010b) on using aspect-oriented programming and model composition in support of RBAC security within UML, as part of a CSE5099. During Spring 2004, J. Pavlich and two other graduate students worked on an implementation project for this work as part of CSE5107, using UML to define a security access control architecture and AspectJ for its implementation. A journal article based on this work has been submitted. Overall, during Fall 2004, F. Griffith and F. Manni worked on a CSE5600 project on this software. During Spring 2005, A. Adur, F. Griffith, F. Manni, and V. Srikanti all worked on projects related to this effort in CSE5600.
- **Collaborative Extensions to NIST RBAC.** This research direction started in Fall 2007 to explore if current access control models are sufficient to support the definition of roles and privileges for collaborative work towards some common goal. Current role-based access control models (RBAC) access control models focus on prohibiting access using Separation of Duty (SoD) and cardinality constraints to prevent access. However, collaboration requirements are an increasingly important need and very critical to domains such as health care where the sharing of patient data among a group of providers across a range of clinical settings is required. This research gap served as motivation for the Ph.D. work of Solomon Berhe. Towards this goal, we defined the concept of “Collaboration on Duty and Adaptive Workflow” (COD/AWF) which extends and complements RBAC’s work of J. Pavlich in three phases. First, we defined a formal collaboration model for COD/AWF (Berhe, et al., 2009). Second, we extended the UML Meta Model to allow the definition of COD/AWF slices (Berhe, et al., 2011). Third, we prototyped a tool that uses the Google Wave and Google Health to simulate a collaboration scenario implementing a subset of the COD/AWF model (Berhe, et al., 2010). Overall, this work was implemented in two ways. First the prototyping in Google wave was conducted as part of the project degree requirements (CSE5600) of a number of MS students, namely: A. Cusano, A. Fequiere, J. Liu, and J. Gedarovich. Professor Thomas Agresta, MD, Dept. of Family Medicine, UCHC, served as the domain expert outlining the clinical scenarios throughout the system and the research. In addition, we are in process of extending a UML Eclipse plug-in to support both the UML extensions for RBAC and DAC (Pavlich, et al., 2010a, 2010b) and collaboration and adaptive workflow.
- **Security for XML.** This research effort began on Fall 2011 as a result of analyzing current XML-targeting security approaches. Research efforts in XML security typically focus on either embedding security as part of the XML schema, or setting policies that rewrite queries to access untouched XML instances. These two approaches, plus the motivation of tackling the XML security problem from a software engineering perspective, served as the motivation for the Ph.D. work of Alberto De la Rosa Algarín. Towards this research goal, we extended UML at the meta-model layer with new constructs such as the XML Schema Class Diagram (XSCD) (De La Rosa Algarin, et al., 2012, De La Rosa Algarin, et al., IGI2013), which utilizes a non-formal UML profile to represent XML schemas as UML class diagrams; the XML Role Slice Diagram (XRSD) (De La Rosa Algarin, et al., 2012, De La Rosa Algarin, et al., IGI2013, De La Rosa Algarin, et al., WEBIST2013), which represents a role’s permission definitions with respect to the different elements of an XML schema; and, an XACML mapping algorithm (De La Rosa Algarin, et al., 2013, De La Rosa Algarin, et al., WEBIST2013) that is capable of generating enforcement security policies from defined XRSDs. This work also resulted in the re-engineering of the Personal Health Assistant (PHA) Medical Management and Reconciliation

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application (see below) to use it as a security enforcement test-bed. PHA has been complemented by the work of REU students Y. Rivera Sanchez (2012), R. Kuykendall (2012), D. Fu (2013), as well as CSE undergraduate students J. Ronquillo Rodriguez, J. Chu, W. Lin, L. Nhan, M. Swircenski, and B. Depoi as part of their CSE4939W/CS4940 course in Fall 2012/Spring 2013. In addition, we are in process of extending the aforementioned UML Eclipse plug-in for RBAC and collaboration with XML extensions..

- **Medical Management and Reconciliation Applications:** Over the past few years, we have been developing health care applications for medication management and medication reconciliation. The first, a mobile health application, the Personal Health Assistant (PHA), consists of two perspectives for medication management (De La Rosa Algarin, et al., 2013). One perspective allows a patient to keep track of their medications, nutritional supplements, allergies, etc., and also authorize that PHI (CCR information), which is stored in Microsoft Health Vault – MSHV, to his/her specific medical providers at different times. The second perspective allows a provider to select and view the authorized PHI on a patient-by-patient basis as determined by his/her assigned role. The second application, SMARTSync for medication reconciliation (Ziminski, et al., 2012), takes patient medications from MSHV and the Harvard SMART Platform Electronic Medical Record (EMR) and from this information is able to generate a summary list of medications/supplements added by patients (in MSHV) with those prescribed by a patient’s medical provider. The intent is to generate a color-coded list of potential overmedication, adverse interactions, and adverse reactions for the patient and provider. Microsoft HealthVault (MSHV) acts as the data source for both applications, and stores information in a proprietary format which to be exported via a .NET API which can then be used to generate a CCR compliant document in XML. To store the relations between the authorized list of providers and their respective patients, the Middle-Layer Server uses MySQL . JSON is utilized for the communication of the two applications and the Middle-Layer Server, allowing us to insure a uniform communication with any application (not only PHA) that can be created for users. The communication between the PHA patient version and the Middle-Layer Server is done with unmodified JSON objects, while the communication between the PHA provider version and SMARTSync and the Middle-Layer Server is a combination of unmodified (for the initial request of patients) and filtered (for the resulting data allowed by the policies) JSON. Project extended by a team of undergraduates in CSE4939W/CS4940 in the Fall 2012/Spring 2013: J. Ronquillo Rodriguez, J. Chu, W. Lin, L. Nhan, M. Swircenski, and B. Depoi.
- **Distributed Security with JINI and CORBA.** Over the past 4 years, as part of numerous independent studies and design laboratories by graduate students, a prototype system that realizes distributed role-based security has been undertaken. The purpose of the work is to provide a means to control access to legacy and COTS APIs via a mechanism that limits which users (clients) can call which methods of the different APIs that are available in a distributed application. This work began in Spring 2000, and has continued in Fall 2000 (four MS students), Spring 2001 (six MS students), Summer 2001 (two MS students), Fall 2001 (three MS students), Spring 2002 (three MS students), Fall 2002 (five MS students), Spring 2003 (two MS students), Fall 2003 (two MS students), and Spring 2004 (two MS students). The current prototype works with Windows NT 4.0 and Linux as OSs, Microsoft Access and Oracle as databases, and JINI 1.1 running under Java 1.3 and Visibroker as middleware. Our prototype supports a Course DB Resource and a Course Client (GUI tool) where students can query course information and enroll in classes, and faculty can query and modify the class schedule. To realize distributed role-based security, a Unified Security Resource (USR) has been prototyped in both JINI and CORBA. In addition, two other security officer tools have been designed and prototyped, namely: a *Security Policy Client (SPC)* to manage user roles and establish privileges, and a *Security Authorization Client (SAC)* for associating roles with actual users. The underlying security mechanism is transparent to clients utilizing tools. This design and prototyping work supports the Ph.D. research of C. Phillips. Please see the following web site for full details: <http://www.engr.uconn.edu/~steve/DSEC/dsec.html>.
- **Design Reuse Evaluation.** DRE, short for design-reuse evaluation, is a object-oriented reuse tool that has been under continuous design, development and improvement (with new capabilities) over the past three years. This research prototype is utilized to support graduate research and undergraduate

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design/implementation projects. During the 1999/2000 academic year, the availability of this tool was crucial in support of obtaining funding from Electric Boat, Inc., on exploring reusable components for the shipbuilding domain. DRE Software Package contains over 5,500 lines of code and was developed using Java. DRE can analyze the reuse potential of Java, C++, and Ada software. To date, 14 graduate students and 4 undergraduates have done projects related to DRE. In a parallel effort to the DRE prototype as described above, the ideas and concepts for our reuse model and framework are being transitioned into the UML tool Together CC, yielding DRE/TCC. Together CC has the ability to access the internal Java data structures that are utilized to store a UML design, and allows the addition of "plug-ins" that add custom functionality via Java code. This work is conducted jointly with USNA and supported by Electric Boat. A current Ph.D. student, R. Caballero, is working on formalizing the reuse model and designing/utilizing genetic algorithms for reusability assessment/analysis. Please see the following web site for full details: <http://www.engr.uconn.edu/~steve/DRE/dre.html>.

- **I5 Design Tool.** The I5 Design Tool is a custom UML tool based on the OMG UML CORBA facility and has been under development since June 1999, with Scott Craig as the major software engineer. In Fall 1999, the graphical features were prototyped as an undergraduate project while the Foundation and ModelManagement packages of the UML facility were implemented as a graduate project. In Spring 2000, two students reproduced the Fall 1999 prototype in order to restructure the graphical features of the tool while implementation of the BehavioralElements package began. Proposed metamodel changes intended to enhance implementation diagrams were also prototyped. To date, 197 of the 373 UML facility interfaces have been implemented, including all interfaces needed to support I5. Advanced features of the Java2 platform (Java IDL, 2D Graphics and Imaging, Drag-and-Drop, etc.) were utilized in developing the tool. Future work may include implementation of the remaining BehavioralElements subpackages and adding support for XML model interchange. A total of 4 students worked on this during the 1999-2000 academic year.

CURRENT DOCTORAL CANDIDATES

- Ziminski, Timo Part-time, in Germany
- Sanzi, Eugene Funded by CT Insurance and Phase II STTR Sonalysts– Full GA
- Etim, David Part-time, previously funded by Multicultural Scholars Program Fellowship and a half TA
- Baihan, Mohammed Full-time, funded by a full scholarship from King Saud University

CURRENT MASTERS STUDENTS

- Sedor, John Part-time
- Joshua Diffenderfer Part-time

COMPLETED DOCTORAL STUDENTS

1. M. Baihan, "A Framework for Secure and Interoperable Cloud Computing with RBAC, MAC, and DAC," August 2018.
2. Y. K. Rivera Sanchez, " A Configurable Framework for RBAC, MAC, and DAC for Mobile Applications," August 2017.
3. A. De La Rosa Algarin, "An RBAC, LBAC and DAC Security Framework for Tree-Structured Documents," August 2014. Dr. De La Rosa Algarin is a researcher engineer at Loki Labs in the cyber security area for the intelligence community and defense sectors.
4. R. Kanth Saripalle, "A Software Engineering Approach to Ontology Modeling, Design, and Development with Lifecycle Process," August 2013. Dr. Knath Saripalle is an assistant professor in

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Computer Science at Illinois State University since Fall 2015. He was previously a data analyst position at NetVision Resources, Inc., and is working in a NIST project on Electronic Health Record data preservation and interoperability.

5. S. Berhe, "A Framework for Secure, Obligated, Coordinated and Dynamic Collaboration that Extends NIST RBAC," August 2011. Dr. Berhe had a post-doc in the Biomedical Informatics Department at Columbia University Medical School (September 2011 to November 2012) and is currently an Assistant Research Professor in CS&E at UConn since February 2013.
6. J. Pavlich-Mariscal. "A Framework of Composable Security Features: Preserving Separation of Security Concerns from Models to Code," December 2008 (co-advised by L. Michel). Dr. Pavlich-Mariscal is an tenured associate professor in the Departamento de Ingeniería de Sistemas at Pontificia Universidad Javeriana and in the Departamento de Ingeniería de Sistemas y Computación at Departamento de Ingeniería de Sistemas y Computación.
7. T. Doan, "A Framework for Software Security in UML with Assurance," August 2008 (co-advised with T.C. Ting). Dr. Doan is a researcher at Northside, Inc., which conducts research on natural language processing and applies said artificial intelligence to computer gaming.
8. C. Phillips, "Security Assurance for a Resource-Based RBAC/DAC/MAC Security Model," May 2004. Dr. Phillips was formally the Chief Information Officer for the U.S. Army Reserve Command at Fort McPherson, GA. Previously, he was an assistant professor in the Computer Science Department at the US Military Academy at West Point.
9. C. Bastarrica, "Architectural Specification and Optimal Deployment of Distributed Systems," Aug. 2000. Dr. Bastarrica is an Assistant Professor in the Computer Science Department at the University of Chile, Santiago, Chile. (co-advised with A. Shvartsman)
10. M. Price, "Object-Oriented Design Methodology To Facilitate Reuse," May 1998. Dr. Price is a software engineer at Electric Boat, Groton CT, since Dec. 2000. Previously, Dr. Price was a senior software engineer at Raytheon in Newport, RI, since July 1998.
11. K. El Guemhioui, "Information Engineering of Parallel and Distributed Systems Using an Object-Oriented Design Model," May 1997. Dr. El Guemhioui is a tenured full professor who just completed a term as department head in the Department of Data Processing and Engineering at the at the University of Quebec in Outaouais.
12. D. Needham, "Object-Oriented Propagation Modeling to Support CAD/CAM and Software Engineering," May 1997. Dr. Needham is a tenured full professor in the Computer Science Department of the U.S. Naval Academy. (co-advised with T. Peters)
13. H. Ellis, "An Information Engineering Approach to Object-Oriented Design and Analyses," May 1994. Dr. Ellis is an Full Professor of the Computer Science in the Computer Science Department at Western New England University since 2009, having just completed a term as department head.
14. M.-Y. Hu, "Definition, Analyses, and Enforcement of User-Role Based Security in an Object-Oriented Design Model," May 1993. Dr. Hu has a position as a Senior Manager, Release Planning and Governance, Cisco Cloud Services at Cisco Systems, San Francisco since 2014.

COMPLETED MASTERS STUDENTS

- T. Ziminski, "A Study of Architectural Alternatives for Integrating Health Care Data and Systems," Technische Universitat, Dortmund, Germany, June 2009, co-advised with Dr. J. Rehof.
- H. Ni, "Object-Oriented Design Enhancements and User-Role Based Security Specification for the ADAM Environment," Dec. 1994.
- S. Chittathoor, "A Graphical Environment for Object-Oriented Design and Multi-Lingual Automatic Software Generation," May 1993.
- K. El Guemhioui, "The Integration of the Graphical Design Tool ADAM/DB with the Object-Oriented Database System Ontos," June 1992.
- S. Ranganathan, "Evolving a Class Library to Support Persistency: The Integration of Ozone with Ontos," Dec. 1991.

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- G. Nichols, “Utilization and Evaluation of the Object-Oriented Paradigm for Modelling in the Ozone Software Development Environment,” Dec. 1990.
- H. Ellis, “Incorporating Behavioral Capabilities into the Object-Oriented Paradigm through Propagation Actions,” June 1990.
- A. Mathur, K. Lopez, Spring 2015, Non-Thesis MS Degree
- N. Mathur, S. Moledina, Summer 2014, Non-Thesis MS Degree
- G. Devoe, C. Davis, Spring 2014, Non-Thesis MS Degree
- A. FeQuiere, Fall 2012, Non-Thesis MS Degree
- A. Cusano, B. Heckman, R. McGivern, Spring 2012, Non-Thesis MS Degree.
- J. Liu, Summer 2010, Non-Thesis MS Degree.
- R. Bhatt, Summer 2009, Non-Thesis MS Degree.
- H. Sen and M. Saleem, Fall 2008, Non-Thesis MS Degree.
- A. Adur, Fall 2005, Non-Thesis MS Degree.
- F. Manni, Spring 2006, Non-Thesis MS Degree.
- P. Griffith and Y. Ju, Fall 2005, Non-Thesis MS Degree.
- A. Ketterl, Z. Wang, A. Sundaram, and Y. Zhang, Spring 2005, Non-Thesis MS Degree.
- J. Mehta and C. Slamka, Aug. 2004, Non-Thesis MS Degree.
- K. Bessette and H. Dave, May 2004, Non-Thesis MS Degree.
- F. Gao, Dec. 2002, Non-Thesis MS Degree.
- S. Das, J. Ellis, and F. Eickhoff, Aug. 2002, Non-Thesis MS Degree.
- N. Limaye and H. Lin, May 2001, Non-Thesis MS Degree.
- J. Balthazar, S. Craig, and H. Ren, Aug. 2000, Non-Thesis MS Degree.
- H. Sauers, May 1999, Non-Thesis MS Degree.
- A. Vadali, Dec. 1998, Non-Thesis MS Degree.
- R. Pujar, Aug. 1998, Non-Thesis MS Degree.
- L. Wu, Dec. 1997, Non-Thesis MS Degree.
- N. Hamawi, Dec. 1995, Non-Thesis MS Degree.
- While at the Naval Postgraduate School (10/83 to 6/87) I supervised 26 master's students producing 21 masters theses as the second reader (i.e., co-adviser). This list is available upon request.

COURSES TAUGHT

CSE1010	Intro. To Programming for Engrs	FA19
CSE110	Intro. to Numerical Computation	FA87, SP/FA88, FA89, SP91
CSE2102	Intro. to Software Engineering	FA93, FA95, FA96, FA97, FA98, SP/FA06, FA13
CSE3002	Social, Ethical & Prof. Issues in CSE	SP17
CSE4102	Prin. of Programming Languages	SP89, SP90, SP18, SP18, SP19, SP20
CSE4100	Prog. Language Translation	FA91, SP/FA92, SP93, SP/FA94, FA00, SP01, FA09, FA10, SP11, FA17
CSE4701	Introduction to Data Bases	SP/FA03, FA04, FA07, FA15, SP/FA17
CSE4300	Operating Systems	FA99, SP00
CSE4902	Software Engineering Laboratory	SP96, SP97, SP98, SP99, SP00, SP01
CSE4900	Independent Design Laboratory	SP/FA88, SP91, SU93, FA93, SP94, FA95, SP/FA96, FA97, FA98, FA99, SP00, SP03, FA04, FA05, SP/FA07
CSE4904	Computer Science Design Lab.	FA90, SP97, SP98, FA98, SP01, SP03, SP04,

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CSE4939	Computer Sci. & Engr. Design Lab.I	SP/FA05, SP06, SP/FA07, SP08, SU08, SP12 SP01, SP03, SP04, SP/FA05, SP06, SP/FA07, SP08, SU08, SP/FA12, SP13, FA14, FA15, FA16, FA17, FA18, FA19
CSE4940	Computer Sci. & Engr. Design Lab.II	SP/FA13, SP15, SP16, SP17, SP18, SP19, SP20
CSE4095	Distributed Object Computing	SP99, FA05
CSE4099	Independent Study in CS&E	FA96, FA98, FA05, SP06, FA08
CSE5095	Res. Topics in Info. & SW Engrg.	SP96
CSE5095	Operating Systems	SP00
CSE5810	Intro to Biomedical Informatics	SP08, SP11, SP14, FA16, FA18
CSE5099	Indep. Study in CS & E	SP90, FA91, SU/FA92, SP93, SU/FA94, FA95, FA96, SP/FA97, FA99, SP/SU00, SP/SU/FA01, SP/FA02, SP/FA03, SP/SU/FA04, SP05, SP/FA06, SP07, SP/FA08, SP09, SP/FA10, SP/FA11, SP/FA12, SP13, FA14, SP/FA15, SP/FA16
CSE5101	Adv. Software Engineering	SP93, FA93, FA94, FA95
CSE5107	Distributed Component Systems	SP99, FA00, FA02, SP04, FA05
CSE5701	Adv. Database Topics	FA88, FA90
CSE5600	CS&E Research Laboratory	FA88, FA90, FA97, SP/FA98, SP00, SP/FA01, SP/FA02, SP/FA03, SP/FA04, SP/FA05, SP/FA06, FA07, FA08, SP/FA09, SP/FA10, SP/FA11. SP/FA12, SP/FA13

CURRICULUM DEVELOPMENT

- Development of a new year long senior design project CSE4939W and CSE4940 for the CS&E department and its three undergrad program (CS, CSE, CompE) that provides the experience of a full year realistic project on teams of 4 to 6 students. Being deployed in Fall 2012/Spring 2013 academic year. (Please see: <http://www.engr.uconn.edu/~steve/Cse4939W/cse4939W.html>).
- Development of CSE300 Topics in Biomedical Informatics, a new course offered in Spring 2008. This course was based on material from CSE333 – namely the topics software architectures, middleware and service oriented architectures, security (background, role-based, distributed, secure software engineering), and the dynamic coalition problem, but with two vital differences. First, any of the slides used from CSE333 were totally reworked and expanded with new material directly relating the course topics to biomedical informatics and other medical applications. Second, new subjects related to biomedical informatics/standards, collaborative security, and web security. A group team project on a collaborative web portal was designed and prototyped; this project will be used for a CSE293 in Summer 2008. (Please see: <http://www.engr.uconn.edu/~steve/Cse300/cse300.html>).
- Development of CSE293 Computer Science & Engineering Design Laboratory. This was a new course developed during the Spring 2001 semester, reused during the current Spring 2003 semester, as part of our major curriculum changes for the ABET 2000 accreditation. This course is considered the second semester of a major design experience that is required by all of our undergraduates. A significant amount of course materials (Please see www.engr.uconn.edu/~steve/Cse293/cse293.html) have been developed. In Spring 2001, a real-time digital, software controllable model railroading laboratory with Marklin computer controllable model train equipment was established and used for projects. This is state of the art equipment, were all of the various components, trains, turnouts, switches, signals, etc., are computerized, and more important, computer controllable from a laptop or a PC. During the current Spring 2003 semester, there is one ongoing hardware and software project related to the digital trains.

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There are also projects related to robotics controllable by PDA/cell phone, computer gaming with GameBoy Advance, laptop connection to on-board diagnostics of automobiles, and others.

- Development CSE333 Distributed Component Systems (originally offered as CSE298/300 Distributed Object Computing). This course was offered as a new course for the first time during the Spring 1999 semester, as a CSE professional requirement for undergraduates held in conjunction with a graduate version of the course. This course included up-to-date research material on new and emerging topics in DOC. Students worked as teams of undergraduates/graduates on projects and did presentations in a day-long seminar setting. This course used materials that were all made available via the web page of the instructor, including papers, powerpoint slides, and web sites with papers and software for downloading. A total of over 1500 powerpoint slides were developed for the course, updated most recently during the Spring 2004 offering. (Please see www.engr.uconn.edu/~steve/Cse333/cse333.html).
- Developed a new graduate course, CSE350, in Fall 1989, to function as a first year, graduate level database course. This course provides a broad background in database concepts and serves as a prerequisite for more advanced database related courses such as CSE351 - Semantic Data Models, CSE331 - Distributed Database Systems, and CSE353 - Information and Data Security. At the time, there were numerous database faculty at UConn (Demurjian, Maryanski, Shin, Ting, and Viemont) and these four courses were established as a unified curriculum with CSE350 as the lead in course. CSE350 has been offered by other faculty members (Shin, Goldin, Thomasian) over the years.
- Redesign of CSE250 and CSE251 into a new sequence CSE230 and CSE262 (no change in titles). The credits have increased from 4 to 6 in the software engineering sequence. The material in CSE230 combines lecture material from CSE250 and CSE251 by adding an extra meeting day, hence the increase of 1 credit. The number of assignments, homeworks, projects, and exams has not changed. CSE262 is a laboratory-based course (similar to other CSE26X courses), where the students begin their team project at the start of the semester. CSE230 was offered in its new form during the Summer 1994 session and in the Fall 1994 semester. CSE262 was offered in the Spring 1995 semester. The materials for CSE230/262 have been reused by many other faculty and graduate students teaching the courses since their change. They have also been used at another university. The work on redesigning CSE250 and CSE251 into a new sequence was supported as part of joint funding received by S. Demurjian and T. Peters (Ada9X and Object-Oriented Design within an Enhanced Software Engineering Sequence, ARPA, \$49,099. PIs: S. Demurjian and T. Peters, May 1, 1994 to July 1, 1995.; and, Integrating Ada and Object-Oriented Design within a Software Engineering Course, ARPA, \$57,309. PIs: S. Demurjian and T. Peters, May 31, 1993 to Dec. 31, 1994).
- Revised the content and focus of CSE250 Introduction to Software Engineering and CSE251 Software Engineering Laboratory, our junior year software engineering sequence, from a traditional to an object-oriented emphasis in the 1991/1992 academic year. New textbooks were chosen that reflect this change in emphasis and stress engineering discipline for software design and development. Supervised H. Ellis (my doctoral student) in the development of overhead transparencies, assignments, exams, and projects for both courses. This material was used by Prof. D.G. Shin in teaching the class during the Summer 1992 session, and by Prof. T. Peters during the Fall 1992 semester. Our approach and rationale has been documented in an article (Demurjian, S., Peters, T., Beshers, G., Ellis, H., and Nichols, G., "The (Non) Importance of a Programming Language in a Software Engineering Course," *Computer Science Education J.*, Vol. 3, No. 1, 1992, Ablex Publishing, Inc.), which served as the basis for CSE230 and CSE62.
- Revised the introductory first year course (CSE110) in Fall 1987 by choosing new textbooks and developing a comprehensive set of overhead transparencies (which were made available to students in subsequent semesters). Four other UConn faculty/instructors utilized the material for teaching CSE110 in other semesters.
- Development for CSE327 - Advanced Software Engineering. During the 1993/94 academic year, this course was developed a new offering of an existing course. A draft containing seven chapters for a

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graduate textbook was written, titled "Information Engineering: Object-Oriented Design and Analyses" (250 single-spaced pages with exercises). The course notes from the Spring 1993 semester were revised and packaged with the textbook draft into course notes. In the Fall 1993 semester, CSE327 was taught jointly by me at UConn and the Hartford Graduate Center using compressed video technologies for distance learning. I was the first faculty member to utilize this newly purchased technology at UConn, Storrs. The course had students in both Storrs and Hartford. I would alternate and teach one week in Hartford and one week in Storrs, to give students personal access to the instructor.

- Development of CSE258 Operating System. This course was a new preparation that required a significant amount of effort since the topic material is outside of my direct area of expertise. This course is required by all CSE undergraduate majors. I developed a comprehensive set of 865 overhead transparencies (based on 400 overheads supplied by the textbook's author G. Nutt). An extensive course web page was also developed, and used during the Fall 1999 and Spring 2000 semester. (Please see www.engr.uconn.edu/~steve/Cse258/cse258.html).
- Development of CSE255 Introduction to Data Bases. This course was a new preparation that is requiring a significant amount of effort. This course is typically taken by most CS/CSE undergraduate majors. I have developed a comprehensive set of 1000 overhead transparencies based on overheads supplied by a faculty member from Georgia Tech (L. Liu) supplemented by material from CSE350. An extensive course web page is also being developed and used during the Spring 2003 semester. (Please see www.engr.uconn.edu/~steve/Cse255/cse255.html).
- Senior Design Project Courses. In Spring 2005, CSE269 was split into two logical groups - one group did one semester projects as usual. The second group defined two semester projects that would continue in a sequence with CSE293 - 3 of 6 groups in CSE269 continued their work in the Fall 2005 semester in CSE293. This has required maintaining two separate schedules and milestones (for one semester vs. two semester groups) and also providing additional work for the two-semester groups so as to define a larger scale project for the two-semester sequence. In addition, CSE293W was offered as a W course for the first time, which has required extra tracking of material written by each student (15 pages per student) along with more feedback on their written assignments.
- Redesign of CSE230 Introduction to Software Engineering. Significant redesign of this course (last taught in 1997) due to the changes to CSE123/133/134 sequence - approximately 70% new materials including many new topics (UML, Software Security, Aspect-Oriented Programming, etc.). (Please see www.engr.uconn.edu/~steve/Cse230/cse230.html)

REFEREEING AND REVIEWING ACTIVITIES

Funding Agencies

- National Science Foundation, International/Australia Program, Jan. 1991
- National Science Foundation, Database and Expert Systems Program, Jan. 1989 and Mar. 1990
- Louisiana Board of Regents, Office of Sponsored Research, Jan. 2003
- Planning Grant, UCHC Ethel Donaghue Center for Translating Research into Practice, 2007
- National Institute for Health, Challenge Grant Editorial Panel 3, June/July 2009.
- National Institute for Health, Challenge Grant Editorial Panel 26, June/July 2009.

Book Publishers

- McGraw Hill, 1996
- Prentice-Hall, Inc., 1988, 1989
- Benjamin-Cummings, Inc., 1988, 1989, 1990, 1992
- IGI-Global, Handbook of Research on Web 2.0, 3.0 and X.0: Technologies, Business, and Social Applications, 2008

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Journals

- IEEE Transactions on Knowledge and Data Engineering, July 1989, May 1990, May 1991, Sept. 1991
- IEEE Transactions on Software Engineering, Apr. 1990, Apr. 1998, March 2006. Journal of Parallel and Distributed Computing, Apr. 1990
- VLDB Journal, Apr. 1993
- Computer Science Education Journal, Ablex Pub. Co., Feb./Aug. 1992, Jan./Aug. 1993, May 1994, Dec. 1994, Jan. 1996
- Journal of Computer Security, Jan. 1993, Feb. 1995
- Journal of Digital Libraries, Special Issue on Security, 2004. ACM Transactions on Internet Technology, March 2006
- Journal of Software and Systems Modeling, March 2006, August 2006
- IET Proc. of Information Security, July 2006
- Journal of Computers & Security, Elsevier, April 2013, July 2013, July/November 2014, February 2015, March 2017, May 2017, February 2018
- New England Journal of Medicine January 2017
- Journal of Information Security and Applications, Elsevier February 2018
- IGI International Journal of Privacy and Health Information Management (IJPHIM) June 2018

Conferences, Workshops, Symposia

- IEEE Conf. on Systems, Man, and Cybernetics, May 1989
- The 1989 Fifth Generation Computer Systems Conf., May 1989
- First International Conf. on System Integration, Aug. 1989
- VLDB Conf., Apr. 1990 - 15 total papers received and reviewed
- COMPSAC'90, Mar. 1990
- 1990 ISMM Parallel and Distributed Computing, and Systems Conf., May 1990
- Sixth ISCA International Conf. on Parallel and Distributed Computing Systems, June 1993
- Fourth International Computer Integrated Manufacturing and Automation Tech. Conf., May 1994
- IEEE Transactions on Systems, Man, and Cybernetics, June 1994
- Distributed Computing 12th International Sym., DISC'98, Sept. 1998
- International Conf. on Distributed Computing, 1998
- IEEE 1999 Software Engineering/Knowledge Engineering (SEKE) Conf., Nov. 1999
- A OPODIS'99 International Conf. on Principles Of Distributed Systems, June 1999
- IAT'99 First Asia-Pacific Conf. on Intelligent Agent Technology, July 1999
- CM Principles of Distributed Computing (PODC) 2000, 2004
- International Semantic Web Working Symposium 2001 (SWWS)
- International Semantic Web Working Symposium (ISCW), 2002 and 2003
- Special Track on Semantic Web, held in conjunction with FLAIRS 2002 and 2003
- Ontologies for Business Information Systems (OntoBIS), 2003
- International Conference on Web Applications and Research - WAR 2006
- IEEE Granular Computing, Special Session on Security, 2006
- IFIP WG 11.3 Working Conference on Data and Applications Security, 1993, 1997 – 2009
- IADIS International WWW/Internet Conference 2002 – 2018
- International Workshop on Web Semantics - WebS 2004 – 2015
- International Conference on Web Information Systems and technologies (WEBIST) 2005 – 2018
- International Conference on Software Engineering Advances (ICSEA), 2006 – 2016
- International Conference on Software and Data Technologies (ICSOFIT), 2006 – 2018
- International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies

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(UBICOMM), 2008 – 2016

- International Conference on Availability, Reliability and Security (AREs), 2015-2016
- ACM IADIS IHI: International Health Informatics Symposium 2010, 2012.
- IEEE International Conference on Healthcare Informatics (ICHI), 2013-2017
- International Conference on Software Engineering and Mobile Application Modeling and Development (ICSEMA)-2012
- International Conference on GLOBAL HEALTH Challenges, 2013-2018
- International Conference on Data Management Technologies and Applications (DATA), 2014-2018

COMMITTEES AND SERVICE

University Level

- Co Director, Biomedical Informatics, Connecticut Institute for Clinical and Translation Science, January 2008 – present.
- Member, Faculty Search Committee, Biomedical Informatics Director and Faculty, May 2009 – June 2012.
- Member, Faculty Search Committee, Associate Director, Ethel Donaghue Center for Translating Research into Practice and Policy (TRIPP), Jan. 2008 to June 2008.
- Member, School of Engineering Dean's Review Committee Member, Oct. 2002 to Jan. 2003.
- Member, Physical Science Review Committee, UConn Research Foundation, term of Oct. 2002 to Spring 2007. Review of proposal set, and review meeting, in Fall and Spring semesters.
- Chair, Engineering Committee, Physical Science Review Committee, UConn Research Foundation, term of Jan. 2004 to Spring 2007. Coordinate all reviews for proposals and submit recommendations.
- Provost's Distance Learning Advisory Committee, Sept. 1994 - June 1997. A new committee formed in Sept. 1994 to address distance learning issues across the university.
- Member, Ad-Hoc Committee on Distance Learning, Apr. 1994 - July 1994. Led by F. Maryanski, this committee has been charged with setting policy regarding distance learning for UConn.
- Member, Technology Infrastructure Task Group of the Educational Delivery Subcommittee of the Strategic Planning Management Committee, Mar. 1994 - July 1994. Led by D. Jordan, this committee contains members from UConn, HGC, and the business community.
- Member, Ad-Hoc Short-Term Guest Professorship Committee, Fall 1993 Competition, UConn Research Foundation.
- Member, Graduate Faculty Council, University of Connecticut Graduate School, Sept. 2011- present.

School Level

- Member, School of Engineering PTR Committee, September 2014 – August 2016.
- Member, School of Engineering Graduate Committee, Sept. 2004 – Spring 2008, Sept 2009 – Aug 2014.
- Member, Steering Committee, Transportation Institute, Aug. 1998 – June 2001.
- Member, School of Engineering Ad Hoc Committee for BRC Head Search, Mar. 97 - May 1997.
- Member, School of Engineering Graduate Studies Committee, Sept. 2000 to June 2001.
- Member, School of Engineering Graduate & Research Committee, Sept. 1995 - May 1997.
- Area Coordinator representing School of Engineering for University-wide Honors Day Committee, 1988-1989; Presentations given for CS & E on Honors Day, Apr. 5, 1989.
- Graduation Representative for Computer Science & Engineering Department at University Commencement: May 1988, Graduate Ceremony; May 1991, Undergraduate Ceremony.
- Chair of School of Engineering Open House Committee, Aug. 1988 - June 1990.

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- Member of School of Engineering Open House Committee, and Computer Science & Engineering Representative, Sept. 1987 - June 1990.

Departmental Level

- Member, Accreditation Committee, (CAC & EAC).
- Director of Graduate Studies, Computer Science & Engineering Department, June 2001 – June 2014. Responsible for all facets of the graduate program, including admissions, update brochure, and program requirements. Member and Chair, Graduate Program Enhancement Committee, Sept. 2002 – June 2014.
- Industrial Liaison, Computer Science & Engineering Department, Sept. 2002 – June 2014. Works closely with the CSE Department head for funding raising, donations, industry research collaborations, senior design projects for CSE293 capstone design project, etc.
- Member of Faculty Search Committee, Joint Computer Engineering Search, Sept. 2003 – May 2004, Computer Science & Engineering Department.
- Chair and Member of Faculty Search Committee, July 2000 – June 2002, Oct. 2002 – June 2003, Sept. 2004 – May 2006, Computer Science & Engineering Department.
- Chair and Member of Faculty Search Committee, Storrs and Stamford Searches, Sept. 1997 - Aug. 1998, Computer Science & Engineering Department.
- Member of CITI Faculty Search Committee, Feb. 1997 - May 1997, Computer Science & Engineering Department.
- Member of Faculty Search Committee, 1990-1991 and 1987-1988, 1994-1995, Computer Science & Engineering Department; Spring 1991, Electrical & Systems Engineering Department for Asst. Prof. in Residence position.
- Member of Faculty Search Committee, CSE/System Genomics, 2014-2015.
- Member of Computer Science & Engineering Graduate Program Committee, June 2001 – present.
- Chair and Member of Computer Science & Engineering Graduate Program Committee, June 1998 – May 2001. Responsible for all facets of the graduate program, including admissions, update brochure, and program requirements. As Chair, interact with prospective graduate students in person, via email, and by phone.
- Chair and Member of Computer Science & Engineering Graduate Admissions Committee, Sept. 1997 - May 1998. Responsible for overseeing the entire graduate admissions process for prospective M.S. and Ph.D. students.
- Member of Computer Science & Engineering Graduate Admissions Committee, June 1991 - Aug. 1997. Responsible for reviewing folders of prospective M.S. and Ph.D. students.
- Member of Dean's Awards Recommendation Committee (substitute for PTR member).
- Member of Computer Science & Engineering Graduate Exam Committee, Sept. 1994 - Sept. 1996.
- Member of Computer Science & Engineering PTR Committee, Fall 1996, Fall 1999, Fall 2002, Fall 2003, Fall 2004, Fall 2005, Fall 2006, Fall 2007, Fall 2009, Fall 2010, Fall 2011, Fall 2012, Fall 2013, Fall 2018
- Member, Strategic Planning Committee, CS&E, Feb. 2006 – May 2007.
- Member and Chair of Ad Hoc Committee for Computer Science & Engineering Graduate Program Revision, Mar. 1992 - Sept. 1994. Responsible for the development and implementation of a major revision to the M.S./Ph.D. program and requirements.

PROFESSIONAL SOCIETIES AND ACTIVITIES

Prof. Steven A. Demurjian
Computer Science & Engineering Department

Positions of Responsibility

- Editorial Board, Journal of Software Engineering and Applications, Scientific Research Publishing (<http://www.scirp.org/journal/jsea/>), January 2011– present.
- Affiliate Member, Ethel Donaghue Center for Translating Research into Practice and Policy (TRIPP), December 2006 – present.
- Academic/Industrial Advisory Board Member, Computer Science Department, Central Connecticut State University, Mar. 2000 – September 2010.
- Member, Java IDE (Integrated Development Environment) Selection Subcommittee of the EWTA Application Development Domain, Department of Information Technology, State of Connecticut, Oct. 2002 to Feb. 2003.
- Editorial Advisor, Handbook of Computer Science & Engineering, CRC Press, Inc., A. Tucker (ed.), Jan. 1995 - June 1996. This is a 2000 page volume that attempts to treat the entire discipline. Responsible for developing an outline and soliciting authors for the Software Engineering Section (10 chapters) of the Handbook.
- Associate Editor of VLDB Journal, Fall 1989 - Spring 1996. Responsible for soliciting reviews on articles, collecting responses, and making recommendations regarding acceptance.
- Program Co-Chair, North America, The Ninth Annual IFIP Working Group 11.3 Working Conf. on Database, Security, Aug. 1994 - Aug. 1995, Rensselaerville, NY, Aug. 1995.
- Board of Directors, Greater Hartford Chapter of the ACM, June 1991 - Aug. 1995. Attend monthly meetings and participate in planning of the activities for the Chapter.
- Program Committee Member, VLDB 1990 Conf., Jan. 1990 - May 1990. Responsible for reviewing 15 papers and making recommendations regarding their acceptance.
- Program Committee Member, Fourth International Computer Integrated Manufacturing and Automation Technology Conf., Feb. 1994 - June 1994.
- Program Committee Member, International Semantic Web Working Symposium 2001 (SWWS), July 2001, Stanford University, Stanford CA.
- Program Committee Member, International Semantic Web Conference 2002 (ISCW2002), June 2002, Sardinia, Italy.
- Program Committee Member, International Semantic Web Conference 2003 (ISCW2003), Oct. 2003, Sanibel Island, Florida.
- Program Committee Member, Special Track on Semantic Web, held in conjunction with FLAIRS 2002, May 2002, Pensacola, FL.
- Program Committee Member, Special Track on Semantic Web, held in conjunction with FLAIRS 2003, May 2003, FL.
- Program Committee Member, Ontologies for Business Information Systems (OntoBIS), held in conjunction with 6th International Conference on Business Information Systems (BIS 2003), June 2003, Colorado Springs, CO.
- Conference Committee, Second International Conference on Advanced Technologies for Homeland Security (ICATHS'04), Sensing and Information Technology area, August 2004.
- Program Committee Member, IADIS Web Applications and Research 2006 Conference.
- Program Committee Member, IEEE Granular Computing 2006 Special Session on Computer Security and Data Privacy, May 2006.
- Program Committee Member, 1st International Conference on Software Engineering Advances (ICSEA), October 2006, Tahiti, French Polynesia.

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- Program Committee Member, 2nd International Conference on Software Engineering Advances (ICSEA), August 2007, Cap Esterel, French Riviera, France.
- Program Committee Member, 3rd International Conference on Software Engineering Advances (ICSEA), October 2008, Sliema, Malta.
- Program Committee Member, 4th International Conference on Software Engineering Advances (ICSEA), September 2009, Porto, Portugal.
- Program Committee Member, 5th International Conference on Software Engineering Advances (ICSEA), August 2010, Nice, France.
- Program Committee Member, 6th International Conference on Software Engineering Advances (ICSEA), October 2011, Barcelona, Spain.
- Program Committee Member, 7th International Conference on Software Engineering Advances (ICSEA), November 2012, Lisbon, Portugal.
- Program Committee Member, 8th International Conference on Software Engineering Advances (ICSEA), October 2013, Venice Italy.
- Program Committee Member, 9th International Conference on Software Engineering Advances (ICSEA), October 2014, Nice France.
- Program Committee Member, 10th International Conference on Software Engineering Advances (ICSEA), November 2015, Spain
- Program Committee Member, 11th International Conference on Software Engineering Advances (ICSEA), November 2016, Italy
- Program Committee Member, 3rd International Workshop on Web Semantics (WebS 2004), September 2004, Zaragoza, Spain.
- Program Committee Member, 4th International Workshop on Web Semantics (WebS 2005), August 2005, Copenhagen, Denmark.
- Program Committee Member, 5th International Workshop on Web Semantics (WebS 2006), September 2006, Krakow, Poland.
- Program Committee Member, 6th International Workshop on Web Semantics (WebS 2007), September 2007, Ragensburg, Germany.
- Program Committee Member, 7th International Workshop on Web Semantics (WebS 2008), September 2008, Turin, Italy.
- Program Committee Member, 8th International Workshop on Web Semantics (WebS 2009), September 2009, Linz, Austria.
- Program Committee Member, 9th International Workshop on Web Semantics (WebS 2010), September 2010, Bilbao, Spain.
- Program Committee Member, 10th International Workshop on Web Semantics (WebS 2011), September 2011, Toulouse, France.

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- Program Committee Member, 11th International Workshop on Web Semantics (WebS 2012), September 2012, Vienna, Austria.
- Program Committee Member, 12th International Workshop on Web Semantics (WebS 2013), August 2013, Prague, Czech Republic.
- Program Committee Member, 1st International Conference on Software and Data Technologies (ICSOFT), Setubal, Portugal, September 2006.
- Program Committee Member, 3rd International Conference on Software and Data Technologies (ICSOFT), Porto Portugal, July 2008.
- Program Committee Member, 4th International Conference on Software and Data Technologies (ICSOFT), Sofia, Bulgaria, July 2009.
- Program Committee Member, 5th International Conference on Software and Data Technologies (ICSOFT), Athens, Greece, July 2010.
- Program Committee Member, 6th International Conference on Software and Data Technologies (ICSOFT), Seville, Spain, July 2011.
- Program Committee Member, 8th International Conference on Software and Data Technologies (ICSOFT), Rome Italy, July 2013.
- Program Committee Member, 9th International Conference on Software and Data Technologies (ICSOFT), Vienna, Austria, August 2014.
- Program Committee Member, 10th International Conference on Software and Data Technologies (ICSOFT), France, July 2015.
- Program Committee Member, 11th International Conference on Software and Data Technologies (ICSOFT), Lisbon, Portugal, July 2016.
- Program Committee Member, 12th International Conference on Software and Data Technologies (ICSOFT), Madrid, Spain, July 2017.
- Program Committee Member, 13th International Conference on Software and Data Technologies (ICSOFT), Porto, Portugal, July 2018.
- Program Committee Member, 1st International Conference on Web Information Systems and technologies (WEBIST) 2005, Miami, May 2005.

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- Program Committee Member, 2nd International Conference on Web Information Systems and technologies (WEBIST) 2006, Barcelona, Spain.
- Program Committee Member, 3rd International Conference on Web Information Systems and Technologies (WEBIST) May 2007, Funchal, Madeira - Portugal.
- Program Committee Member, 4th International Conference on Web Information Systems and technologies (WEBIST) May 2008, Funchal, Madeira - Portugal.
- Program Committee Member, 5th International Conference on Web Information Systems and technologies (WEBIST) , March 2009, Lisboa, Portugal.
- Program Committee Member, 6th International Conference on Web Information Systems and technologies (WEBIST) , April 2010, Valencia, Spain.
- Program Committee Member, 7th International Conference on Web Information Systems and technologies (WEBIST) , May 2011, Noordwijkerhout, The Netherlands.
- Program Committee Member, 8th International Conference on Web Information Systems and technologies (WEBIST) , April 2012, Porto, Portugal.
- Program Committee Member, 9th International Conference on Web Information Systems and technologies (WEBIST) , May 2013, Aachen, Germany.
- Program Committee Member, 10th International Conference on Web Information Systems and technologies (WEBIST) , April 2014, Barcelona, Spain.
- Program Committee Member, 11th International Conference on Web Information Systems and technologies (WEBIST) , May 2015, Portugal.
- Program Committee Member, 12th International Conference on Web Information Systems and technologies (WEBIST) , May 2016, Italy.
- Program Committee Member, 13th International Conference on Web Information Systems and technologies (WEBIST) , May 2017, Portugal.
- Program Committee Member, 14th International Conference on Web Information Systems and technologies (WEBIST) , May 2018, Portugal.
- Scientific/Program Committee of the IADIS International WWW/Internet 2002 Conference, Aug. 2002, Lisbon Portugal.
- Scientific/Program Committee of the IADIS International WWW/Internet 2003 Conference, Nov. 2003, Algarve, Portugal.
- Scientific/Program Committee of the IADIS International WWW/Internet 2004 Conference, Nov. 2004, Algarve, Portugal.
- Scientific/Program Committee of the IADIS International WWW/Internet 2005 Conference, Oct. 2005, Lisbon, Portugal.

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- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2006 Conference, October 2006, Lisbon, Portugal.
- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2007 Conference, Real, Portugal, October 2007.
- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2008 Conference, Real, Portugal, October 2008.
- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2009 Conference, Rome, Italy, October 2009.
- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2010 Conference, Timisoara, Romania, October 2010.
- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2011 Conference, Rio de Janeiro, Brazil, November 2011.
- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2012 Conference, Madrid Spain, October 2012.
- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2013 Conference, Forth Worth, TX, October 2013.
- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2014 Conference, Porto, Portugal, October 2014.
- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2015 Conference, Ireland, October 2015.
- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2016 Conference, Mannheim, Germany, October 2016.
- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2017 Conference, Algarve, Portugal, October 2017.
- Member, Scientific/Program Committee of the IADIS International WWW/Internet 2018 Conference, Seville, Spain, October 2018.
- Local Organizing Chair, IFIP WG 11.3 Working Conference on Data and Applications Security, held at Nathan Hale Hotel/UConn, Aug. 2005. Responsible for organizing all details of the conference day-to-day activities from arrival (Aug. 7) to departure (Aug. 10).
- Program Committee Member, IFIP WG 11.3 XIX Conference on Data and Applications Security, Aug. 2005, Storrs, CT.

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- Program Committee Member, IFIP WG 11.3 XX Conference on Data and Applications Security, July 2006, France.
- Program Committee Member, IFIP WG 11.3 XXI Conference on Data and Applications Security, July 2007, California.
- Program Committee Member, IFIP WG 11.3 XXII Conference on Data and Applications Security, July 2008, California.
- Program Committee Member, IFIP WG 11.3 XXIII Conference on Data and Applications Security, July 2009, Montreal Canada.
- Program Committee Member, 2nd International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM), October 2008, Valencia, Spain.
- Program Committee Member, 3rd International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM), October 2009, Valencia, Spain.
- Program Committee Member, 4th International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM), October 2010, Florence, Italy.
- Program Committee Member, 5th International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM), November 2011, Lisbon, Portugal.
- Program Committee Member, 6th International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM), September 2012, Barcelona, Spain.
- Program Committee Member, 7th International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM), September 2013, Porto, Portugal.
- Program Committee Member, 8th International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM), August 2014, Rome Italy.
- Program Committee Member, 9th International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM), July 2015, France.
- Program Committee Member, 10th International Conference on Mobile Ubiquitous Computing, Systems, Services and Technologies (UBICOMM), July 2016, Italy.
- Program Committee Member, The 8th ARES Conference (ARES 2013), September 2013, Regensburg, Germany.
- Program Committee Member, The 9th ARES Conference (ARES 2014), September 2014, Switzerland.
- Program Committee Member, The 10th ARES Conference (ARES 2015), August 2015, France.
- Program Committee Member, The 11th ARES Conference (ARES 2016), August 2016, Austria.
- Program Committee Member, IEEE International Conference on Healthcare Informatics (ICHI), September 2013, Philadelphia, PA.
- Program Committee Member, IEEE International Conference on Healthcare Informatics (ICHI), September 2014, Verona Italy.
- Program Committee Member, IEEE International Conference on Healthcare Informatics (ICHI), September 2015, Dallas, Texas.
- Program Committee Member, IEEE International Conference on Healthcare Informatics (ICHI), September 2016, Chicago, Illinois.
- Program Committee Member, IEEE International Conference on Healthcare Informatics (ICHI), September 2017, Park City, Utah
- Program Committee, 3rd International Conference on Data Management Technologies and Applications (DATA), August 2014, Austria
- Program Committee, 4th International Conference on Data Management Technologies and Applications (DATA), August 2015, France
- Program Committee, 5th International Conference on Data Management Technologies and Applications (DATA), August 2016, Portugal
- Program Committee, 6th International Conference on Data Management Technologies and Applications (DATA), August 2017, Spain

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- Program Committee, 7th International Conference on Data Management Technologies and Applications (DATA), August 2018, Portugal
- Program Committee Member, ACM SIGHIT 1st International Health Informatics Symposium (IHI 2010), November 2010, Arlington VA.
- Program Committee Member, ACM SIGHIT International Health Informatics Symposium (IHI 2012), January 2012.
- Program Committee Member, IEEE 2nd International Conference on Global Health Challenges, November 2013, Portugal.
- Program Committee Member, IEEE 3rd International Conference on Global Health Challenges, August 2014, Rome Italy.
- Program Committee Member, IEEE 4th International Conference on Global Health Challenges, November 2015, France.
- Program Committee Member, IEEE 5th International Conference on Global Health Challenges, August 2016, Italy.
- Program Committee, The 6th International Conference on Global Health Challenges, GLOBAL HEALTH, November 2017, Spain
- Program Committee, The 7th International Conference on Global Health Challenges, GLOBAL HEALTH, November 2018, Germany

Professional and Honor Society Memberships

- American Association of University Professors.
- IEEE Computer Society Technical Committees on Database Engineering and Software Engineering..
- Upsilon Pi Epsilon, the National Computer Science Honorary Society, Nov. 1989 - present.
- Member, Connecticut Academy of Science & Engineering, May 2007 – present.