

## Divakaran Liginlal (Lal)

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**Divakaran Liginlal (Lal)** is a Professor of Information Systems in the teaching track at Carnegie Mellon University in Pittsburgh holding a joint appointment with Dietrich and Heinz Colleges. He holds a B.S. in Telecommunication Engineering from CET, an M.S. in Computer Science from the Indian Institute of Science, and a Ph.D. in Management Information Systems from the University of Arizona. Before joining CMU, he taught at three U.S. universities, including nine years as a tenure track professor at the University of Wisconsin-Madison, where he was a recipient of the *Mabel Chipman Award for Faculty Excellence in Teaching* and the Lawrence J. Larson Grant Award for Innovation in Curriculum Design. In 2013, Prof. Lal received the *best teacher award* at CMU's Qatar campus. As a graduate student, he received the *University of Arizona Foundation Award for Meritorious Teaching*. His research in information security, human-computer interaction, and decision support systems has been published in such journals as the Journal of MIS (JMIS), Communications of the ACM, IEEE-TKDE, IEEE-SMC, Applied Ergonomics, JGITM, the European Journal of Operational Research, Computers & Security, Decision Support Systems, Fuzzy Sets & Systems, IEEE Technology & Society, JISE, IJIM, and IRMJ. His teaching and research have been supported by organizations such as Microsoft Corporation, Hewlett Packard, Cisco Systems, Cargill, the Qatar Foundation, and the ICAIR at the University of Florida. Most recently, as the Lead PI of a major funded research project, he led a multidisciplinary team with professors from Cambridge, University of Wisconsin-Madison, and CMU that investigated the use of metaphors in Arabic language websites. He also was a PI of another major funded research project involving a literacy intervention study aimed at improving the quality of student technical and professional communication at the university level. A coauthored paper on scaffolding case analysis writing resulting from this project won the Journal of Information Systems Education best paper award for 2019. Prior to joining academics, Prof. Lal worked as a scientist developing test computers for the Indian Space Research Organization and as a software developer in Saudi Arabia.

## EDUCATION

**Ph.D.** Management Information Systems, University of Arizona, Tucson, U.S.A.

(Dissertation Title: *Building Fuzzy Front-End Decision Support Systems for Global Telecommunications Projects*)

**M.S.** Computer Science & Engineering, Indian Institute of Science, Bangalore, India

**B.S.** Electronics and Communication Engineering, College of Engineering, Trivandrum, India

## RESEARCH INTERESTS

1. Human Computer Interaction, Digital Accessibility
2. Information Security and Privacy
3. Decision Support Systems & Healthcare Analytics
4. Classroom and Pedagogical Techniques

## JOURNAL PAPERS

1. M. Zakaria, C. Aoun, & **D. Liginlal**, "Objective sustainability assessment in the digital economy: An information entropy measure of transparency in corporate sustainability reporting," *Sustainability*, (13) 2021.
2. S. Pessoa, M.P. Gomez-Laich, **D. Liginlal** & T.D. Mitchell, "Scaffolding case analysis writing: A collaboration between IS and writing faculty," *Journal of Information Systems Education*, 30(1), 2019. (Won the Journal's best paper award for 2019)
3. R. Ahmad, L. Torlakova, **D. Liginlal**, R. Meeds, "Figurative language in Arabic e-commerce text," *International Journal of Business Communication*, 54(2), 2017.

4. **D. Liginlal**, R. Meeds, R. Ahmad and P. Gopinath, "D. Liginlal, R. Meeds, R. Ahmad and P. Gopinath, "Metaphorical expressions in e-commerce: a study of Arabic language websites," *Journal of Global Information Technology Management*, 20(2), 2017.
5. S. Fass, R. Yousef, **D. Liginlal**, and P. Vyas, " Understanding causes of fall and struck-by incidents: What differentiates construction safety in the Arabian gulf region?" *Applied Ergonomics Journal*, 58, 515-526, 2017.
6. L. Khansa, X. Ma, S. Kim, **D. Liginlal**, "Understanding members' participation in online Question-and-Answer communities: A theory and empirical analysis," *Journal of Management Information Systems*, 32 (2), 162-203, 2015.
7. **D. Liginlal**, I. Sim, L. Khansa, and P. Fearn, "Human error and HIPAA privacy rule compliance: An interpretive study using Norman's action theory," *Computers and Security*, 31 (2), 206-220, 2012.
8. L. Khansa and **D. Liginlal**, "Whither information security? Examining the complementarities and substitutive effects among IT and information security firms," *International Journal of Information Management*, 32 (3), June 2012, 271-281.
9. L. Khansa and **D. Liginlal**, "Regulatory influence and the imperative of innovation in identity and access management," *Information Resources Management Journal*, 25 (3), July – Sep 2012, 78-97.
10. I. Sim, **D. Liginlal** and L. Khansa, "Information privacy situation awareness: Construct and validation," *Journal of Computer Information Systems*, 53 (1), 2012.
11. L. Khansa and **D. Liginlal**, "Predicting stock prices from malicious attacks: A comparative analysis of vector autoregression and time-delayed neural networks," *Decision Support Systems*, 51(4), pp.745-759, 2011.
12. T. James, L. Khansa, D. Cook and **D. Liginlal**, "Technology and U.S. politics," *IEEE Technology and Society*, 30(1), pp. 20-27, 2011.
13. **D. Liginlal**, L. Khansa and S. Chia, "News in hand: A case study in investment options for mobile content services," *International Journal of Business Data Communications and Networking*, 6 (1), pp.17-37, 2010.
14. L. Khansa, and **D. Liginlal**, "Quantifying the benefits of investing in information security," *Communications of the ACM*, 52(11), November 2009.
15. **D. Liginlal**, I. Sim, and L. Khansa, "How significant is human error as a cause of privacy breaches? An empirical study and a framework for error management," *Computers and Security*, 28(3-4): pp. 215-228, May-June, 2009.
16. L. Khansa and **D. Liginlal**, "Valuing the flexibility of investing in security process innovations," *European Journal of Operational Research*, 192 (1), pp. 216-235, January 2009.
17. Y. Chen and **D. Liginlal**, "A maximum entropy approach to feature selection in knowledge-based authentication," *Decision Support Systems*, Vol. 46, Issue 1, December 2008, pp. 388-398.
18. Y. Chen and **D. Liginlal**, "Bayesian networks for knowledge-based authentication," *IEEE Transactions on Knowledge and Data Engineering*, Vol. 19, No. 5, pp. 695-710, May 2007.
19. **D. Liginlal**, S. Ram, and L. Duckstein, "A fuzzy measure-theoretical framework for screening product innovations," *IEEE Transactions on Systems, Man, and Cybernetics-Part A: Systems and Humans*, Vol. 36, No. 3, May 2006.
20. **D. Liginlal** and T. Ow, "Modeling attitude to risk in human decision processes: An application of fuzzy measures," *Fuzzy Sets and Systems*, 157(23), December 2006.
21. **D. Liginlal** and T. Ow, "On policy capturing with fuzzy measures," *European Journal of Operational Research*, 167(2), pp. 461-474, December 2005.

## BOOK CHAPTERS

1. M.P. Gomez Laich, **D. Liginlal**, T. Mitchell, S. Pessoa, "Addressing students' writing challenges with the case development genre through explicit instruction: Lessons learned from a design-based research project," in *Handbook of Teaching and Learning in Information Systems*, Edward Elgar Publishing, 2023 (In Press).

2. **D. Liginlal**, M. Fehani, P. Gopinath, and A.W. Cheek, “Wish lists and shopping carts: A study of visual metaphors on Arab e-commerce websites,” in *E-Life: Web-Enabled Convergence of Commerce, Work, and Social Life*, Spring 2017.
3. **D. Liginlal**. “HIPAA and Human Error: The role of enhanced situation awareness in protecting health information,” in Gkoulalas-Divanis & Loukides (eds.), *Medical Data Privacy Handbook*, Springer, 2015.
4. **D. Liginlal**. “The Aftermath of HIPAA Violations – Can U.S. healthcare organizations bear the costs?” in Khosrow-Pour, Mehdi. "*Encyclopedia of Information Science and Technology, Third Edition*" IGI Global, 2015.
5. **D. Liginlal**, M. Rushdi, A. Rizwan, R. Meeds. “Localization for a high context culture: An exploratory study of cultural markers and metaphors in Arabic e-commerce websites,” *E-Commerce, E-Business and E-Service*, CRC Press, 2014.
6. **D. Liginlal**, L. Khansa, and S. Chia, “Using real options theory to evaluate strategic investment options for mobile content delivery,” in: Debashi, S., and Varadharajan, S. (eds.), *Next Generation Data Communication Technologies*, IGI Global, Chapter 15, pp. 310-331, 2011.
7. **D. Liginlal** and L. Khansa, Privacy and E-Authentication: The dangers of self-disclosure in social networks, in: Sharman, R., Raghav, H.R., Raghu, T.S. (eds.), *Lecture Notes in Business Information Processing*, 52, Springer-Verlag, Berlin, pp. 166-176, 2011.
8. **D. Liginlal**, L. Khansa, and J. Landry, “Collaboration, innovation, and value creation – The case of wikimedia's emergence as the center for collaborative content” in *Cases on Technology Innovation: Entrepreneurial Successes and Pitfalls*, Ann Becker and Robert Niebuhr (eds.), Business Science Reference, 2010.
9. **D. Liginlal**, L. Khansa, and J. Landry, “Collaboration and compliance in healthcare: A threat modeling case study,” in *Readings and Cases in the Management of Information Security*, Vol. 2, Course Technology, 2009.

## WORKING PAPERS

1. **D. Liginlal**, S. Fass, and R. Yousef, “Morphological analysis as a methodology for construction safety decision making: A case study of the Arabian Gulf region.” (for submission to Accident Analysis and Prevention Journal)
2. A. Missned and **D. Liginlal**, “Voices of Al-Khor: A study in digital cultural heritage.” (for submission to the Journal of Cultural Heritage)
3. Sara Al-Baloshi and **D. Liginlal**, “To Read or to Listen? A study of user engagement in an intangible digital heritage artifact.” (for submission to Computers in Human Behavior Journal)
4. N. Al-Qaedi and **D. Liginlal**, “The influence of human images on Arab e-commerce website design.” (for submission to the International Arab Journal of Information Technology)

## REFEREED CONFERENCE PAPERS, PRESENTATIONS & TALKS

1. **D. Liginlal** and S. Al-Emadi, “How effective are web accessibility regulations?” International Conference on Applied Management Advances in the 21st Century, Dec 2022, Virtual Conference.
2. Panel presentation on Digital Accessibility, Infocon 2022, Carnegie Mellon University, Sep 15-16, Virtual conference.
3. Keynote Speaker, Indian Institute of Management Doctoral Symposium (Virtual), December 2020, India.
4. M.P Gomez-Laich, **D. Liginlal**. & M. Maune, “Teaching analytical argumentative writing across disciplines,” Texas A&M in Qatar Liberal Arts International Conference (LAIC) 2019, Doha, Qatar.
5. L. Khalid Al-Thani and **D. Liginlal**, "A study of natural interactions with digital heritage artifacts," Digital Heritage 2018, 3<sup>rd</sup> International Congress & Expo, San Francisco, USA., October 2018.
6. **D. Liginlal**, S. Pessoa, M.P. Gomez-Laich & T. MacGregor, "Case development and genre perspectives: A study of academic writing in human computer interaction design courses,"

- Presentation at the 5th ICMIBI International Conference on Training, Education, and Management. Saint Julian's, Malta, August 2018.
7. M. Zakaria, **D. Liginlal**, and C. Aoun, "Measuring corporate transparency in sustainability reporting," 24<sup>th</sup> Americas Conference on Information Systems (AMCIS) TREO presentation, New Orleans, U.S.A, August 2018.
  8. **D. Liginlal**, S. Pessoa, M. P. Gomez-Laich, and C. Aoun, "Applying the onion model to scaffold writing development in information systems courses," 24th Americas Conference on Information Systems (AMCIS) TREO presentation, New Orleans, U.S.A, August 2018.
  9. M. Zakaria, **D. Liginlal**, and C. Aoun, "Measuring corporate transparency in sustainability reporting: An information entropy-based approach," ABRM 8th ROGE presentation, University of Oxford U.K., July 2018.
  10. **D. Liginlal**, S. Pessoa, and M.P. Gomez Laich, "Scaffolding case analysis writing in an undergraduate information systems class," Information Systems Education Conference (ISECON). San Antonio, TX, USA., May 2018
  11. S. Pessoa, T. D. Mitchell, **D. Liginlal**, and M. P. Gomez Laich, "Developing writing pedagogy in the information systems classroom," Qatar Foundation Annual Research Conference (QF-ARC). Doha, Qatar, March 2018.
  12. S. Pessoa, T. D. Mitchell, **D. Liginlal**, and M. P. Gomez Laich, "Writing in information systems (IS): Understanding and scaffolding expectations through collaboration between applied linguists and IS faculty," Liberal Arts International Conference (LAIC). Doha, Qatar, February 2018.
  13. N. Al-Qaedi and **D. Liginlal**, "Does cultural affinity influence visual attention? An eye tracking study of human images in e-commerce websites," Workshop on E-Business (Web 2017) at the International Conference on Information Systems at Seoul, S. Korea, December 2017.
  14. **D. Liginlal** & Sara Al-Baloshi, "To Read or to Listen? A study of user engagement in a digital heritage artifact," Poster presentation, Digital Heritage Conference, Berlin, September, 2017.
  15. **D. Liginlal**, "The Snake and Ladder game: Generating metaphor and meaning in the information systems classroom," AMCIS TREO presentation, Boston, August 2017.
  16. **D. Liginlal** and D. Al-Muftah, "Web accessibility as a barrier to successful digital governance: A case study of the Arabian Gulf region," CONF-IRM Proceedings, Sao Paulo, May 2017.
  17. Y. Deng, J. Hou, **D. Liginlal**, X. Yang, and X. Ma, "Applying the Cox model to study online gambling behavior," International Conference on Information Systems, Dublin, December 2016.
  18. R. Meeds, **D. Liginlal**, R. Ahmad, and P. Gopinath, "The effects of cultural design style and information richness on consumers' visual attention, comprehension and attitudes toward Arabic-language websites," American Academy of Advertising Conference held in Seattle, March 2016.
  19. **D. Liginlal**, M. Fehani, P. Gopinath, and A.W. Cheek, "Wish lists and shopping carts: A study of visual metaphors on arab e-commerce websites," Web 2015 Workshop on E-Business at the International Conference on Information Systems at Dallas, Texas, December 2015
  20. M. Fehani, **D. Liginlal**, P. Gopinath, and A.W. Cheek, "Catching the eye of the arab e-shopper: A study based on visual attention analysis and eye-tracking methods," Proceedings of the Asia-Pacific Social Sciences Conference, Nagoya, Japan, November 2015.
  21. A. Missned and **D. Liginlal**, "Voices of Al-Khor: A study in digital cultural heritage," International Conference on Digital Heritage, Granada, Spain, September 2015.
  22. R. Yousef, S. Fass, **D. Liginlal**, and C. Aoun, "Combining morphological analysis and Bayesian belief networks: A DSS for safer construction of a smart city," Americas Conference in Information Systems, Puerto Rico, August, 2015.
  23. A. Rizwan, **D. Liginlal**, and R. Meeds, "The richness of metaphor and the metaphor of richness in Arabic e-commerce," International Business Conference (IBC), Ajman, May, 2015.
  24. N. Al Maslamani, **D. Liginlal**, "Applying attention analysis to study the effect of website localization on the impulse buying behavior of Arab shoppers," Third International Conference on Global Business, Economics, Finance and Social Sciences, Mumbai, December 2014.

25. **D. Liginlal**, P. Gopinath, A. Rizwan, and R. Meeds, "Discovering cultural meaning through multimodal analyses of a large corpus of Arabic e-commerce website content," 13<sup>th</sup> Workshop on E-Business, International Conference on Information Systems, Auckland, December 2014.
26. **D. Liginlal**, P. Gopinath, A. Rizwan, R. Meeds, "Websites as cultural expressions – A multimodal analysis of Arabic e-commerce sites," Qatar Foundation Annual Research Forum Proceedings (Poster presentation): Vol. 2014, SSP 0914.
27. **D. Liginlal**, M. Rushdi, A. Rizwan, R. Meeds, "Cultural adaptation and e-commerce: An investigation of language effectiveness in Arabic e-commerce websites," Qatar Foundation Annual Research Forum Proceedings (Poster presentation): Vol. 2013, SSHP 018.
28. **D. Liginlal**, D. Phelps, and L. Kaba, "Tracking the socio-technical barriers to digital identity adoption in Arab countries – A case study of Qatar," 9th International Conference on E-Governance (ICEG-2012), Kochi, India, 2012.
29. A.S.J. Pasi and **D. Liginlal**, "Cultural adaptation and Arab e-commerce: An exploratory study," IADIS International Conference, eSociety, Berlin, March 2012.
30. S. Pessoa, **D. Liginlal**, J. Quesenberry, B. Reilly, and A. Karatsolis, "Writing expectations, challenges, and achievements across the curriculum," Pittsburgh-Qatar Communication Symposium, June 2011.
31. **D. Liginlal**, and E. Gordon, "Building fuzzy rule-based systems for scientific jury selection," 2<sup>nd</sup> Malaysian Joint Conference on AI (MJCAI2010), Kuching, July 2010.
32. **D. Liginlal**, and L. Khansa, Privacy and e-authentication: The dangers of self-disclosure in social networks. *WeB 2009 8th Workshop on e-Business: Exploring the Grand Challenges for Next Generation e-Business*, International Conference on Information Systems, Phoenix, 2009.
33. L. Khansa, and **D. Liginlal**, "Is the decreasing innovation of information security firms hurting their stock price? A time series analysis." *AMCIS*, San Francisco, CA, 2009.
34. L. Khansa, and **D. Liginlal**, "Will the information security industry die? Applying social network analysis to study industry convergence." *AMCIS*, San Francisco, CA, 2009.
35. **D. Liginlal**, I. Sim, L. Khansa, and P. Fearn, "Human error in healthcare organizations: Causes and management strategies." *AMCIS*, San Francisco, CA, 2009.
36. **D. Liginlal**, and I. Sim, "To err is human: But are social networks forgiving," HOIT 2007, Chennai, India, August, 2007.
37. L. Khansa and **D. Liginlal**, "The influence of regulations on innovation in information security," *AMCIS*, Colorado, 2007
38. Y. Chen and **D. Liginlal**, "An empirical investigation of knowledge-based authentication," *AMCIS*, Colorado, 2007.
39. L. Khansa and **D. Liginlal**, "Access granted: The imperative of innovation and standardization in information security," the 19<sup>th</sup> IEEE International Engineering Management Conference (IEMC 2007), Austin, Texas, 2007.
40. L. Khansa and **D. Liginlal**, "Valuing investments in security process innovations," *International Conference on Operations Research Applications*, Bangalore, India, December 2005.
41. **D. Liginlal**, and M. Attari, "Technology options for net-centric enterprises," *Global Information Technology Management Conference*, Dallas, Texas, June 2001.
42. **D. Liginlal**, S. Ram, and S. Vettiyil, "An intelligent consultant for jury selection in a courtroom," *AMCIS*, Milwaukee, WI, August, 1999.
43. **D. Liginlal**, S. Ram and L. Duckstein, "Building fuzzy front-end decision support systems for global telecommunication projects," *COTIM*, Brussels, November 1997.

## THESIS CHAIR AND COMMITTEES

1. Chair, Ph.D. Committee of Dr. Ye Chen, 2007 (Principal Development Lead, Microsoft),
2. Chair, Ph.D. Committee of Dr. Lara Khansa, 2008 (Professor & Associate Dean, Virginia Tech)
3. Co-Chair, Ph.D. Committee of Dr. Inkook Sim, 2010.
4. Member, Ph.D. Committee of Dr. Joko Saputro, 2006
5. Ph.D. Minor Advisor to Dr. Stella Chia, 2001 (Professor, Concordia University)
6. Ph.D. External Examiner for National Institute of Technology, Kozhikode, India, 2011.
7. Ph.D. Committee Member of Dr. Rami Yousef at UT Dallas, 2014 (Currently with HBKU)

8. Ph.D. External Examiner for Indian Institute of Management, Kozhikode, India, 2016 & 2020.
9. Master's Thesis External Examiner for Qatar University, 2021

## AWARDS & HONORS

- *Meritorious Teaching Award*, Carnegie Mellon University's Qatar campus, **2013**.
- *Mabel W. Chipman Outstanding Faculty Teaching Award* from the University of Wisconsin, Madison School of Business, **2007**.
- *University of Arizona Foundation Award for Meritorious Teaching*, **1998**.
- *Lawrence J. Larson Curriculum Development Award 2004* (for innovation in information security curriculum design) from the Wisconsin School of Business.
- *Lawrence J. Larson Curriculum Development Award 2001* (for innovation in e-commerce curriculum design) from the Wisconsin School of Business.
- Finalist (as part of a team) for *Teaching Innovation Award*, Carnegie Mellon University, Pittsburgh, **2019-20**.
- Best paper award for 2019 in Journal of Information Systems Education.

## RESEARCH AND CURRICULUM DEVELOPMENT GRANTS

Year	Description	Donor	(\$)
2016	SLATE-Q: Scaffolding Literacy in Academic and Tertiary Environments (With S.Pessoa – Lead PI & S.L. Mansar - PI)	National Priorities Research Project - Qatar Foundation	527,534
2012	Eye-tracking Studies of Arab E-Commerce Websites (in collaboration with Qatar University) – Lead PI of project	National Priorities Research Project - Qatar Foundation	523,791
2012	Capital equipment grant for HCI research & teaching	Qatar Foundation (NPRP)	132,000
2011	Technology-Enhanced Arabic Language learning (Co-recipient) -Contributed to the 1st year of a 3-year project	Qatar Foundation (NPRP)	567,000
2011	Google TV Devices Grant	Google	1,000
2010	Android-Based Course Development Grant	Google	1,250
2010	Identity Management and Privacy	Qatar Foundation Seed Grant	199,815
2005	Curriculum Development Grant	Microsoft Corporation	1,250
2005	Engage Adaptation Award Grant	DOIT, UW-Madison	1,500
2005	Curriculum Development Grant	Wisconsin School of Business	2,500
2003	Research And Teaching of .NET Technologies	Microsoft Corporation	15,000
2002	Equipment for a Virtual Networking Lab	Cisco Systems	17,500
2002	Mobile Applications of .NET	Microsoft Corporation	8,500
2002	Curriculum Development Grant	Wisconsin School of Business	2,500
2002	Expert Systems For Jury Selection	ICAIR (University of Florida)	33,300
2002	Virtual Enterprise Network Laboratory	DOIT, UW-Madison	21,800
2002	Expert Systems for Jury Selection	Wisconsin School of Business	5,000
2001	.Netcentric Curriculum and Research Plan	Microsoft Corporation	75,000
2001	Mining New Product Ideas	UW-Madison Graduate School	13,350
2000	E-Services Technologies (with Raj Veeramani, Anne Miner)	Hewlett Packard	132,000

## TEACHING INTERESTS

1. Human Computer Interaction, User-Centered Web Design, Mobile Web Application Design and Development
2. Telecommunications, Business Data Communications, Enterprise Networking.
3. Data Management, XML and .NET Web Services Programming, Data Structures and Algorithms
4. Information Security Technologies, Management of Information Security, Writing Secure Code
5. Principles of Management Information Systems

## 6. Introduction to Programming, Systems Analysis and Design, Computing Fundamentals

### COURSES TAUGHT

Institution	Title	Years
Carnegie Mellon University	Application Design (Ruby on Rails)	Fall '09
	User-centered Web Design	Spring '10
	XML and Web Services Programming	Spring '10,'11,'12
	Information Systems Milieux	Fall '10,'11,'12,'13
	Human-Computer Interface Design	Spring '11, '12, '13,'17
	Interaction Design for the Web	Spring '13,'17, Summer '13
	Mobile Web Development & Testing	Summer '12, Fall '13,'17
	Concepts of IS	Fall '13, '16, '17, '18,'19, '20
	Healthcare Analytics & Big Data	Spring '14, '17, Fall 2015
	A Web for Everyone	Spring '18,'19, 20, Fall '21
	Blockchains in Industry (Micro course)	Spring '20
	Digital Accessibility Fundamentals (Micro)	Fall '21
Digital Accessibility	Fall '22	
University of Wisconsin-Madison, School of Business	Information Security Management (MBA)	Fall '07
	Building Secure Information Systems	Summer '07, '08
	Information Security Management	Fall '03,'04,'05,'06, '07
	XML & Web Services Programming	Fall '03,'04,'05,'06
	Enterprise Networking Technologies	Fall '01,'02
	Business Data Communication	Fall '99, '00,'01, '02
	Building an E-Business Infrastructure	Fall '02
University of Arizona, Department. of MIS	Business Data Communications	Spring, Fall 98
	Data Structures and Algorithms	Spring, Fall '97
	Introduction to MIS	Spring, Fall 96, Spring '97
University of South Alabama, School of Computer & Information Sciences	Needs Analysis & Technology Evaluation	Fall '08
	Computer Interface Design	Fall '08
	Undergraduate Projects	Fall '08, Spring '09

### TEACHING EXPERIENCE

#### 2009-Present: Carnegie Mellon University

- *Professor* of Information Systems (Teaching Track) (2015 – Present)
- *Associate Professor* of Information Systems (Teaching Track) (2009 – 2015)
- Courses taught: Healthcare Analytics and Big Data, Application Design and Development (Ruby on Rails), User-centered Web Design, XML and Web Services (C# & .NET), Information Systems Milieux, Human Computer Interface Design, Senior Honors Thesis, Mobile Web Development and Usability Testing, Concepts of Information Systems, Interaction Design for the Web, A Web for Everyone, Information Systems Consulting, and Blockchains in Industry, Digital Accessibility.
- Guided 15 undergraduate honors thesis works.

#### 2008 – 2009: The University of South Alabama, School of Computer and Information Sciences

- *Assistant Professor (Tenure track)*, Department of Information Technology
- Courses taught: Needs Analysis & Technology Evaluation, Computer Interface Design
- Supervised 14 senior undergraduate capstone projects

- Taught an online graduate course titled “Management Information Systems”

### **1999 - 2008: The University of Wisconsin-Madison, School of Business**

- *Assistant Professor (Tenure track)*, Department of Operations & Information Management
- Developed and taught MBA, graduate, and undergraduate courses in Web Services Programming, XML Data Management, Information Security Management, Writing Secure Code, Enterprise Networking, Telecommunications, and E-Business Infrastructure.
- Guide for three Ph.D. thesis, numerous Master’s and Undergraduate theses.

### **1995 - 1999: The University of Arizona, College of Business**

- *Instructor*, Department of Management Information Systems (Independently developed and taught courses such as Introduction to MIS, Data Structures and Algorithms, and Data Communications)
- *Teaching Assistant*, Department of Management Information Systems (Teaching assistant for several IS courses): MIS 611B Behavioral Research Methods (TA to Professor Suzie Weisband), MIS 511 Social Issues of Computing (TA to Professor Suzie Weisband), MIS 522 Linear Programming (TA to Professor Moshe Dror), MIS 507 Data Communications (TA to Professor McNeil), MIS 696B - Group Support Systems (TA to Professor Doug Vogel), and three sections of MIS 111- Introduction to Management Information Systems (TA to Professor Jim Lasalle)

## **PROFESSIONAL ACTIVITIES**

- Member, International Editorial Review Board, [Journal of Database Management](#) (2004 - present)
- Invited by National Institute of Speech and Hearing, India (2019 and 2021) to offer workshops on Digital Accessibility and a seminar on human subjects research.
- Conference Co-Chair for Undergraduate Conference in Information Systems (UCIS) held at CMU, Pittsburgh, U.S.A. in 2014, 2015, 2016.
- President of the Association of Information Systems Qatar Chapter (2015-2020), President Elect (from 2015), Secretary (2013-15) and member of AIS (since 1998)
- Reviewer for *Annals of Operations Research*, *Fuzzy Sets and Systems*, *IEEE Transactions on Engineering Management*, *IEEE Transactions on SMC*, *Information Sciences*, *Pattern Recognition Letters*, *AMCIS*, *ICIS*, *Behavior & Information Technology*, *DSS Journal*, *ACM SIG-MIS*, and *HICCS*.
- Invited to the first four Microsoft Faculty Summits (2000-2003), first IBM E-Commerce Curriculum Development Conference 2000, and HP E-Services Workshop 2000.
- Served as the treasurer and program committee member for Web 2006, Web 2007, and Web 2009 - an ICIS Workshop on E-Business.

## **SERVICE AT CARNEGIE MELLON UNIVERSITY**

1. Member of College Council, Dietrich College of Humanities & Social Sciences (since 2020)
2. Set up an Information Systems lab in 2010 to support undergraduate research and the requirements of elective courses such as web usability testing and web accessibility.
3. Setup an HCI lab in 2014 with two eye-trackers, face reader, 3D-printer, 3D-scanner, holographic display and a variety of I/O devices to support the needs of courses in the user experience content area.
4. Mentored undergraduate projects that won the top two prizes at the Meeting of the Minds, 2011 and Qatar National Vision Special Awards at the Meeting of the Minds, 2014, 2015, 2016, 2017 & 2018.
5. Lectured at IS outreach event to schools, organized family day & high school events.
6. Other department-level and college-level committee activities.

## **OUTREACH AT CARNEGIE MELLON UNIVERSITY**

1. Member of the advisory committee that proposed a strategy and design for Her Highness Sheikha Moza's Web presence.
2. Partnered with the Qatar Ministry of Interior to propose a design for Qatar's drug prevention campaign website.

3. Partnered with the IT Department of Lusail, Qatar's futuristic city, to develop student projects and a National Priority Research Project (NPRP) on decision support systems for safety management and sustainable development.
4. Partnered with Qatar University, and University of Wisconsin-Madison faculty to conduct eye-tracking studies of Arab e-commerce websites.
5. Worked with Ministry of Culture, Qatar Museum Authority and Qatar University to develop a digital heritage project proposal for the National Priorities Research Project.
6. Worked with MADA (Qatar Assistive Technology Center) to develop a course on web accessibility and a research project to examine accessibility of Qatar's organizational websites.

## SERVICE AND OUTREACH AT UW-MADISON SCHOOL OF BUSINESS

1. Set up an academic partnership with Oracle leading to the adoption of Oracle for the InfoSys courses in 1999. Created a partnership with the Division of Information Technology at UW-Madison that has served the School of Business database courses since 1999.
2. Served in a significant role to promote School of Business academic partnerships with Microsoft, HP, CISCO, and IBM. This resulted in donations of expensive software and equipment.
3. Set up an Information Systems Lab to support faculty research and the laboratory requirements of specialized courses such as e-business infrastructure and secure coding.
4. Significant role in setting up a high-level computing lab aided by a gift from Cargill to support Information Systems courses.
5. Set up a virtual lab facility to teach telecommunications (was one of the five teaching and learning technology competition winners in UW-Madison in 2002) with support from the Division of Information Technology at UW-Madison.

## INDUSTRY EXPERIENCE (PRIOR TO EARNING Ph.D.)

### Indian Space Research Organization (ISRO)

- *Scientist/Engineer*: Member of the Electronics Systems Division and the Inertial Guidance System Test Group for India's satellite launch vehicle projects. Responsibilities included instrumentation interfacing and test program development for building automated test systems. Also involved in research into advanced computing architectures for flight computers.

### The Saudi Iron & Steel Company, Kingdom of Saudi Arabia

- *Computer Specialist*: Designed and commissioned the incoming material management system for the plant and a personnel tracking system based on Unix and Oracle platforms. Responsible for training operators of various nationalities.  
Two years' experience in routine hardware maintenance of Prime super-minicomputers, managing help desk operations, and plant-wide operational maintenance.

## REFERENCES

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