

UGO A. BUY

1205 N. East Ave.
Oak Park, IL 60302

Email: ugobuy@yahoo.com

Mobile: (312) 371-4492

Web: <http://www.cs.uic.edu/Buy>

PROFESSIONAL EXPERIENCE

University of Illinois at Chicago

Associate Professor, Computer Science, 2001—current.

Associate Professor, Electrical Engineering and Computer Science, 1996—2001.

Assistant Professor, Electrical Engineering and Computer Science, 1990—1996.

Digital Equipment Corporation

Senior Software Engineer, Artificial Intelligence Technology Group, Hudson, Massachusetts, 1983—86.

EDUCATION

University of Massachusetts at Amherst

Ph.D. in Computer Science, 1990.

M.S. in Computer Science, June, 1983.

Politecnico di Milano, Milan, Italy

“Laurea” degree in Electrical Engineering, 1980.

MAIN TEACHING AWARDS

College of Engineering Teaching Award. University of Illinois at Chicago (UIC), 2013, 2016 and 2018.

UIC Teaching Recognition Program award. 2006.

UIC Award for Excellence in Teaching. 2005.

Harold A. Simon Award for Excellence in Teaching, College of Engineering, UIC, 1995.

Best Advisors Award, College of Engineering, UIC, 1993, 2016 and 2018.

MAIN GRANTS

Adolescent Mental Health Model and Application in Connection with the School's Information System, 2022—23, \$57,285. Principal Investigator, Sponsor: Community Health Advocacy/OSF HealthCare.

Retrofitting Legacy Software to Multicore Hardware, 2013—15, \$50,000. Principal Investigator, Sponsor: Security and Software Engineering Research Center (S2ERC).

Supervisory Control of Discrete Manufacturing Systems, 2003—2006, \$300,000.

Principal Investigator, University of Illinois at Chicago Subcontract on NIST ATP grant, US Dept. of Commerce.

Advanced computing and programming in the mechanical engineering curriculum, 2002—05, \$249,801. Co-Principal Investigator, National Science Foundation.

CAVERN—The CAVE Research Network, 1998—2003, \$2,000,000.

Co-Principal Investigator, National Science Foundation.

Analyzing real-time properties of concurrent programs, 1994–1997, \$102,555.
Principal Investigator, National Science Foundation.

ARTICLES

1. “Automated Test Selection for Android Apps Based on APK and Activity Classification”. *IEEE Access*, 8, 187648-187670, 2020. With L. Ardito, R. Coppola, S. Leonardi, and M. Morisio.
2. “Deception detection in Twitter”. *Social Network Analysis and Mining*, vol. 5(1), Springer-Verlag, Dec. 2015. With J. Alowibdi, P. Yu, S. Ghani, and M. Mokbel.
3. “Formal modeling of sequential function charts with time Petri nets.” *IEEE Transactions on Control System Technology*, vol. 19(2), pp. 455–464, March 2011. With N. Wightkin and H. Darabi.
4. “Enforcing periodic transition deadlines in time Petri nets with net unfoldings.” *IEEE Transactions on Systems, Man and Cybernetics (Part A)*, vol. 41(3), pp. 522–539, May 2011. With H. Wang, L. Grigore, M. Lehene, and H. Darabi.
5. Trajectory data reduction in wireless sensor networks. *International Journal of Next-Generation Computing*, vol. 1(1), 2010. With O. Ghica, G. Trajcevski, O. Wolfson, P. Scheuermann, F. Zhou, and D. Vaccaro. (Invited paper.)
6. “Dynamic reconfiguration of discrete event systems with dynamic control specifications,” *IEEE Transactions on Automation Science and Engineering*, vol. 5(1), pp. 84–100, Jan. 2008. With H. Darabi, R. Sampath, and J. Liu.
7. “Clock synchronization for wireless sensor networks: A survey,” *Ad-Hoc Networks*, Elsevier Pub., pp. 281–323, May 2005. With B. Sundararaman and A. Kshemkalyani.
8. “Automatic real-time analysis of reactive systems with the PARTS toolset,” *Automated Software Engineering*, vol. 8(3/4), pp. 227–274, Aug. 2001. With R. H. Sloan.
9. “Reduction rules for time Petri nets,” *Acta Informatica*, vol. 33(7), pp. 687–706, 1996. With R. H. Sloan.
10. “Stubborn sets for real-time Petri nets,” *Formal Methods in System Design*, vol. 11(1), pp. 23–40, July 1997. With R. H. Sloan.
11. “A specification-based approach to concurrency analysis,” *Automated Software Engineering*, Vol. 2(4), pp. 265–309, Dec. 1995. With R. Moll.
12. “Application and experimental evaluation of state space reduction methods for deadlock analysis in Ada,” *ACM Transactions on Software Engineering and Methodology*, vol. 3(4), pp. 340–380, Oct. 1994. With S. Duri, R. Devarapalli, and S. M. Shatz.
13. “Distributed software engineering,” in J. Marciniak, editor, *Encyclopedia of Software Engineering*, John Wiley & Sons, New York, New York, pp. 396–407, 1994. With S. M. Shatz.
14. “Automated analysis of concurrent systems with the constrained expression toolset,” *IEEE Transactions on Software Engineering*, vol. 17(11), pp. 1204–1222, Nov. 1991. With G. S. Avrunin, J. C. Corbett, L. K. Dillon, and J. C. Wileden.

CONFERENCE PAPERS

15. “Early Detection of Mental and Behavioral Health Issues from High-School Academic Performance”, Proc. 2023 Int. Conf. on Machine Learning Applications, 2023, to appear. With D. Porello, K. Boerke, and S. M. Keller.

16. “Toward Gesture Recognition in Robot-Assisted Surgical Procedures”. *Proc. 2nd International Conference on Societal Automation (SAC 2021)*, pp. 1—4, Funchal, Portugal, May 2021. With H. Huynhnguyen.
17. “APPSEER: Discovering flawed interactions among Android components,” *Proc. 1st Int. Workshop on Advances in Mobile App Analysis (A-Mobile 2018)*, pp. 29—34, Montpellier, France, Sept. 2018. With V. Chiaramida, F. Pinci and R. Gjomemo.
18. “Detecting deception in online social networks,” *Proc. 2014 IEEE/ACM Int. Conf. on Advances in Social Networks Analysis and Mining (ASONAM’14)*, pp. 383—390, Beijing, China, Aug. 2014. With J. Alowibdi, P. Yu and L. Stenneth.
19. “Probabilistic macro-architectural decision framework,” *Proc. of the 2014 ACM European Conference on Software Architecture Workshops (ECSAW ’14)*, pp. 27:1—27:8, URL: <http://doi.acm.org/10.1145/2642803.2642830>, Vienna, Austria, Aug. 2014. With P. Petrov and R. Nord).
20. “Say it with colors: Language-independent gender classification on Twitter”, in *Online Social Media Analysis and Visualization*, Lecture Notes in Social Networks (LNSN), J. Kawal editor, Springer International Publishing, pp. 47—62, 2014, With J. Alowibdi and P. Yu.
21. “Empirical evaluation of profile characteristics for gender classification on Twitter”, *Proc. IEEE 12th Int. Conf. on Machine Learning and Applications (ICMLA 2013)*, pp. 365—369, Miami, Florida, Dec. 2013. With J. Alowibdi and P. Yu.
22. “Assessing performance of software-defined radios on multicore hardware”, *Proc. 2013 Wireless Innovation Forum European Conference on Communications Technologies and Software Defined Radio (SDR-WInnComm-Europe 2013)*, Munich, Germany, June 2013. With N. Green and R. Bartholomew.
23. “Preventing database deadlocks in applications,” *Proc. 9th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE 2013)*, Saint Petersburg, Russia, August 2013. With M. Grechanik, B.M. Hossain, and H. Wang.
24. “Language Independent Gender Classification on Twitter,” *Proc. 2013 IEEE/ACM Int. Conf. on Advances in Social Networks Analysis and Mining (ASONAM’13)*, Niagara Falls, Ontario, Canada, August 2013. With J. Alowibdi and P. Yu.
25. “Testing database-centric applications for causes of database deadlocks,” *Proc. 6th IEEE Int. Conf. on Software Testing, Verification and Validation (ICST 2013)*, pp. 174—183, Luxembourg, March 18—23, 2013. With M. Grechanik and B. M. Hossain.
26. “Enhancing the software architecture and analysis process with inferred macro-architectural requirements,” *Proc. First Int. Workshop on the Twin Peaks of Requirements and Architecture (TwinPeaks2012)*, co-located with *IEEE Int. Requirements Engineering Conference*, Chicago, Illinois, September 2012. With P. Petrov and R. Nord.
27. “The need for a multilevel context-aware software architecture analysis and design method with enterprise and system architecture concerns as first class entities,” *Proc. 9th Working IEEE/IFIP Conference on Software Architecture (WICSA 2011)*, Boulder, CO, June 2011. With P. Petrov and R. Nord.

28. "A systemic methodology for software architecture analysis and design," *Proc. 8th International Conference on Information Technology: New Generations (ITNG 2011)*, Las Vegas, NV, April 2011. With P. Petrov.
29. "Modeling and integration of hospital information systems with Petri nets." *Proc. of the IEEE/INFORMS Int. Conf. on Service Operations, Logistics and Informatics, 2009 (SOLI '09)*, pp. 190-195, Chicago, Illinois, July 2009. With H. Darabi, W. Galanter J. Y.-Y. Lin, and R. Sampath.
30. "Deadlock detection with stubborn unfoldings," *Proc. 12th IASTED Int. Conf. on Software Engineering and Applications (SEA 2008)*, pp. 27—32, Orlando, Florida, Nov. 2008. W. H. Wang.
31. "Enforcing safety properties in web applications using Petri nets," *Proc. 12th IASTED Int. Conf. on Software Engineering and Applications (SEA 2008)*, pp. 33—38, Orlando, Florida, Nov. 2008. With L. Grigore.
32. "Enforcing transition deadlines in time Petri nets," *Proc. 12th IEEE Int. Conf. on Emerging Technologies and Factory Automation (ETFA'07)*, Patras, Greece, Sept. 2007, in press.
33. "Supervisory control of time Petri nets using net unfolding," *Proc. 29th IEEE Computer Software and Applications Conference (COMPSAC-29)*, pp. 97—100, Edinburgh, Scotland, July 2005. With H. Darabi, M. Lehene, and V. Venepally.
34. "Optimization of Control Reconfiguration Strategies," *Proc. 10th IEEE Int. Conf. on Emerging Technologies and Factory Automation (ETFA'05)*, pp. 615—620, Catania, Italy, Sept. 2005, With J.Liu and H. Darabi.
35. "Latency-based supervisors for enforcing deadlines in time Petri nets," *Proc. 29th NASA Software Engineering Workshop (SEW-29)*, Greenbelt, Maryland, Apr. 2005. With M. Lehene, and H. Darabi.
36. "Sidestepping verification complexity with supervisory control," *Proc. Workshop on Software Engineering for Embedded Systems (SEES'03)*, The Monterey Workshop Series, Chicago, Illinois, September 2003. With H. Darabi.
37. "Deadline-enforcing supervisory control for time Petri nets," *Proc. CESA'2003--IMACS Multiconference on Computational Engineering in Systems Applications*, IEEE XPlore, Lille, France, July 2003. With H. Darabi.
38. "Toward efficient algorithms for generating compact Petri nets from labeled transition systems," *Proc. 26th IEEE Computer Software and Applications Conference (COMPSAC-26)*, pp. 717—722, Oxford, UK, Aug. 2002. With G. Singal.
39. "Debunking some common misconceptions about e-learning," *Proc. 25th IEEE Computer Software and Applications Conference (COMPSAC-25)*, pp. 342—343, Lisle, Illinois, Oct. 2001.
40. "Automated testing of classes," *Proc. ACM SIGSOFT 2000 International Symposium on Software Testing and Analysis (ISSTA 2000)*, pp.39—48, Portland, Oregon, Aug. 2000. With A. Orso and M. Pezzè.
41. "A framework for testing object-oriented components," *Proc. ICSE-99 Workshop on Testing of Distributed Component Systems*, pp.112—124, Los Angeles, California, May 1999. With C. Ghezzi, A. Orso, Mauro Pezzè and Matteo Valsasna.

42. "Modeling and analysis of a virtual reality system with time Petri nets," *Proc. 20th Int. Conf. on Software Engineering (ICSE98)*, pp. 33—42, Kyoto, Japan, Apr. 1998. With R. Mascarenhas, D. Karumuri, and R. Kenyon.
43. "Compiling process algebraic specifications into timed automata," *Proceedings 21st Annual International Computer Software Applications Conference (COMPSAC-21)*, Washington, DC, Aug. 1997. With C. Chang, and Y.-T. Tseng.
44. "A computer-based system for problem list maintenance and medical informatics," *Proceedings of the 19th Annual IEEE International Conference on Engineering in Medicine and Biology*, pp. 949—952, Chicago, Illinois, Oct. 1997. With M. Altaher, S. Shatz, C. Yu, D. Hier, and W. Panko.
45. "Analysis of real-time programs with simple time Petri nets," *Proc. ACM Int. Symp. on Software Testing and Analysis*, pp. 228—239, Seattle, Washington, Aug. 1994. With R. H. Sloan.
46. "A Petri-net-based approach to real-time program analysis," *Proc. Seventh IEEE Int. Workshop on Software Specification and Design*, pp. 56—60, Redondo Beach, California, Dec. 1993. With R. H. Sloan.
47. "Using state space methods for deadlock analysis in Ada tasking," *Proc. ACM Int. Symp. on Software Testing and Analysis*, pp. 51—60, June 1993. With S. Duri, R. Devarapalli, and S. M. Shatz.
48. "Integer programming in the analysis of concurrent systems," in K. G. Larsen and A. Skou, editors, *Computer Aided Verification*, Lecture Notes in Computer Science 575, Springer-Verlag, New York, New York, pp. 92—102, 1992. With G. S. Avrunin and J. C. Corbett.
49. "Experiments with an improved constrained expression toolset," *Proc. Fourth IEEE Symp. on Testing, Analysis, and Verification*, 1991, pages 178—187, Victoria, British Columbia, Oct. 1991. With G. S. Avrunin, J. C. Corbett, L. K. Dillon, and J. C. Wileden.
50. "A proof lattice-based technique for analyzing liveness of resource controllers," *Proc. 2nd Int. Computer-Aided Verification Conference*, Lecture Notes in Computer Science 531, Springer-Verlag, New York, New York, pp. 292—301, 1991. With R. Moll.
51. "Liveness analysis and the automatic generation of concurrent programs," In E. M. Clarke and R. P. Kurshan, editors, *Computer-Aided Verification 90*. Series in Discrete Mathematics and Theoretical Computer Science, vol. 3, American Mathematical Society, Providence, Rhode Island, 1991. With R. Moll.