

Omar El Ariss

Texas A&M University-Commerce (TAMUC)
Tel: (903) 886-5403 ~ Omar.El.Ariss@tamuc.edu

Education

Ph.D., Computer Science, 2007 - 2011

North Dakota State University, Fargo, ND

Dissertation Title: Towards Enhanced System Dependability: Integrating Safety-Threat Analysis with Functional Modeling

M.S., Computer Science, 2001 - 2005

Lebanese American University, Beirut, Lebanon

Thesis Title: CASRA - Colloquial Arabic Speech Recognition Application

B.S., Computer Science, 1998 - 2001

Lebanese American University, Beirut, Lebanon

Professional Experience

August 2017 - Present

Assistant Professor, Department of Computer Science & Information Systems, Texas A&M University-Commerce.

August 2011- August 2017

Assistant Professor, Department of Computer Science and Mathematical Sciences, Penn State Harrisburg.

2009 – July 2011

Teaching Assistant, North Dakota State University, Fargo, ND

2007 - 2009

Research Assistant, North Dakota State University, Fargo, ND

- Done research on model checking for aspect oriented programs.
- Done research on GUI based testing for the NDSU VCell educational game.

2005 - 2006

Assistant Researcher, Lebanese American University, Beirut, Lebanon

2003 - 2004

Analyst-Programmer, Unilog Liban, Mkalles, Lebanon

2001 - 2003

Graduate Assistant, Lebanese American University, Beirut, Lebanon

Teaching Experience

Taught the following courses:

- CMPSC 121 (Introduction to Programming Techniques)
- CMPSC 122 (Intermediate Programming)
- CMPSC 221 (Object Oriented Programming with Web-Based Applications)
- CMPSC 460 (Principles of Programming Languages)
- CMPSC 470 (Compiler Construction)
- CMPSC 497 (Software Testing)
- CMPSC 497 (Natural Language Processing)
- COMP 511 (Design and Analysis of Algorithms)
- COMP 516 (Advanced Programming Languages)
- COMP 594 (Master's Studies class)
- COMP 597 (Digital Forensics)
- COMP 597 (Software Testing)
- COMP 597 (Natural Language Processing)

Publications

Journal Articles

- Issam Abu-Mahfouz, Omar El Ariss, A. H. M. Esfakur Rahman, & Amit Banerjee. Surface Roughness Prediction as a Classification Problem Using Support Vector Machine. *International Journal of Advanced Manufacturing Technology (JAMT)*, Springer, 2017. [In Press].
- Omar El Ariss, Steve Bou ghosn, & Weifeng Xu. Testing Software Using Swarm Intelligence: A Bee Colony Optimization Approach. *EAI Endorsed Transactions on Collaborative Computing*, 2 (8), 2016.
- Weifeng Xu, Tao Ding, Dianxiang Xu, & Omar El Ariss. Mining Decision Trees as Test Oracles for Java Bytecode. *International Journal of Computers and Their Applications (ISCA)*, 23(3), 141-159, 2016.
- Dianxiang Xu, Omar El Ariss, Weifeng Xu, & Linzhang Wang, Testing Aspect-Oriented Programs with Finite State Machines, *Journal of Software Testing, Verification and Reliability*, 22, 267-293, 2012.
- Bouchaib Falah, Kenneth Magel, & Omar El Ariss, A Complexity Based Regression Test Selection Strategy, *Computer Science & Engineering: An International Journal (CSEIJ)*, 2012.
- Omar El Ariss, Dianxiang Xu, Secure System Modeling: Integrating Security Attacks with Statecharts, *International Journal of Software and Informatics*, Special issue on Software Modeling and Meta-Modeling. 6(2): 271-306, 2012.
- Omar El Ariss, Dianxiang Xu, W. Eric Wong, Integrating Safety Analysis with Functional Modeling, *IEEE Transactions on Systems, Man, and Cybernetics*, *IEEE Transactions on Systems, Man, and Cybernetics - Part A: Systems and Humans*, vol. 41, no. 4, pp. 610-624, July 2011.
- Dianxiang Xu, Omar El Ariss, Weifeng Xu, Linzhang Wang, Aspect-Oriented Modeling and Verification with Finite State Machines, *Journal of Computer Science and Technology*, 24(5): 949-961, Sept. 2009.
- Ramzi Haraty and Omar El Ariss, CASRA+: A Colloquial Arabic Speech Recognition Application. *American Journal of Applied Sciences*. ISSN: 1546-9239. 2006.

Book Chapters

- Omar El Ariss, Dianxiang Xu, System Modeling with UML State Machines, *Handbook of Finite*

State Based Models and Applications, Jiacun Wang (Editor), (pp. 371-386). Boca Raton, FL: Chapman & Hall, 2013.

Conference Papers

- Omar El Ariss, Loai Alnemer, Morphology based Arabic Sentiment Analysis of Book Reviews. *Proc. of the 18th International Conference on Intelligent Text Processing and Computational Linguistics*, Lecture Notes in Computer Science, April 2017, Budapest, Hungary.
- Weifeng Xu, Omar El Ariss, Ultra-Large-Scale Analysis of Unigrams Collected from Source Code Repository, *Proc. of the Third IEEE International Conference on Multimedia Big Data (BigMM'2017)*. April 2017, Laguna Hills, California, USA.
- Weifeng Xu, Omar El Ariss, An Empirical Study of Control Flow Graphs for Unit Testing. *Proc. of the 14th International Conference on Information Technology: New Generations (ITNG 2017)*. April 2017, Las Vegas, Nevada.
- Sathyanarayanan Subramanian, Thomas Singleton, & Omar El Ariss, Class Coverage GUI Testing for Android Applications. *Proc. of the 2016 International Conference on System Reliability and Science*, November 2016, Paris, France.
- Saket Kumar, Omar El Ariss, Word Sense Disambiguation Using Swarm Intelligence: A Bee Colony Optimization Approach, *Proc. of the 17th International Conference on Intelligent Text Processing and Computational Linguistics*, Lecture Notes in Computer Science, April 2016, Konya, Turkey.
- Omar El Ariss, Steve Bou ghosn, Weifeng Xu, Testing Software Using Swarm Intelligence: A Bee Colony Optimization Approach, *Proc. of the 9th EAI International Conference on Bio-inspired Information and Communications Technologies*, Dec. 3–5, 2015, New York City, USA.
- Weifeng Xu, Omar El Ariss, A JVM-based Testing Harness for Improving Component Testability. *Proc. of the 27th International Conference on Software Engineering and Knowledge Engineering (SEKE 2015)*: June 2015, Pittsburgh, USA.
- Omar El Ariss, Dianxiang Xu, Jianfei Wu, Towards an Enhanced Design Level Security: Integrating Attack Trees with Statecharts, *Proc. of the 5th International Conference on Secure Software Integration and Reliability Improvement (SSIRI 2011)*, June 27-29, 2011, Korea.
- Omar El Ariss and Dianxiang Xu, Modeling Security Attacks with Statecharts, *Proc. of the 2nd International ACM Sigsoft Symposium on Architecting Critical Systems (ISARCS 2011)*, June 20-24, 2011, Boulder, USA.
- Omar El Ariss, Dianxiang Xu, Santosh Dandey, Brad Vender, Phil McClean, and Brian Slator, A Systematic Capture and Replay Strategy for Testing Complex GUI based Java Applications, *Proc. of the 7th International Conference on Information Technology: New Generations (ITNG'10)*, April 2010, Las Vegas, USA.
- Jianfei Wu, Anne Denton, Omar El Ariss, and Dianxiang Xu, Mining for Core Patterns in Stock Market Data, *Proc. of the 3rd International Workshop Mining Multiple Information Sources (MMIS'09)*, In conjunction with ICDM 2009, December 2009, Miami, USA.
- Omar El Ariss, Dianxiang Xu, W. Eric Wong, Yuting Chen, Yann-Hang Lee: A Systematic Approach for Integrating Fault Trees into System Statecharts. *Proc. of the 32nd IEEE International Computers, Software, and Applications Conference (COMPSAC)*. 120-123, 2008.
- Ramzi Haraty and Omar El Ariss, Lebanese Colloquial Arabic Speech Recognition. *Proc. of the ISCA 18th International Conference on Computer Applications in Industry and Engineering (CAINE-2005)*. November 2005, Hawaii, USA.
- Ramzi Haraty, Omar El Ariss and Peter Atallah, MLS/ERD: A Tool for Building Multilevel Secure Entity Relationship Diagrams. *Proc. of the International Conference on Research Trends in Science and Technology*. March 2002, Beirut, Lebanon.

Awards & Fellowships

- Penn State Research Council Grant, "Model Checking for Functional and Threat Behavior of Software", (Principal Investigator), \$7,320, June 2012 - May 2013.
- ND NASA EPSCoR Graduate Student Research award, "Automated Generation of Safety Tests", (Advisor: Dianxiang Xu) \$9,160, Nov. 2007 - August 2008.

Professional Activities & Services

Co-Editor:

- Guest co-editor for the special topic issue on "Advances in Petri Nets for Software Engineering & Knowledge Engineering", International Journal of Software Engineering and Knowledge Engineering (IJSEKE), 2012.

Referee

- IEEE Transactions on Systems, Man, and Cybernetics - Part A: Systems and Humans
- IEEE Transactions on Systems, Man, and Cybernetics - Part C (Applications and Reviews)
- International Conference on Software Engineering and Knowledge Engineering (SEKE): '13, '14, '15, '16
- IEEE International Computers, Software, and Applications Conference (COMPSAC): '14, '15, '16
- International Conference on Bio-inspired Information and Communications Technologies (BICT): '14, '15
- International Conference on System Reliability and Safety (ICSRS): '16