CURRICULUM VITA

Xudong He
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EDUCATION

Ph.D.   Computer Science, Virginia Tech, 1989
M.S.   Computer Science, Nanjing University, China, 1984
B.S.   Computer Science, Nanjing University, China, 1982

EMPLOYMENT

8/05-date: Professor, School of Computing and Information Sciences, FIU
9/14-12/14: Visiting Professor, Department of Computer Science, Carnegie Mellon Univ.
8/00-12/13: Director, Center for Advanced Distributed System Engineering, FIU
8/01-7/05: Associate Professor, School of Computer Science, FIU
1/00-7/01: Assistant Professor, School of Computer Science, FIU
9/98-4/99: Visiting Associate Professor, School of Computer Science, FIU
8/95-12/99: Associate Professor, Dept. of Computer Science, North Dakota State Univ.
9/89-7/95: Assistant Professor, Dept. of Computer Science, North Dakota State Univ.

PUBLICATIONS

Journals
(1) Lily Chang and Xudong He: "A Methodology to Analyze Multi-Agent Systems Modeled in High Level Petri Nets", *International Journal of Software Engineering and Knowledge Engineering – IJSEKE*, vol.25, no.7, 2015, 1199-1235.
(2) X. He: "A Comprehensive Survey of Petri Net Modeling in Software Engineering", *International Journal of Software Engineering and Knowledge Engineering - IJSEKE*, vol. 23, no. 5, 2013, 589-626.
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(6) J. Ding and X. He: "Formal Specification and Analysis of an Agent-Based Medical Image Processing System", *International Journal of Software Engineering and Knowledge Engineering*, vol. 20, no. 3, 2010, 311-345.
(7) J. Lian, S. Shatz, and X. He: "Flexible Coordinator Design for Modeling Resource Sharing in Multi-Agent Systems", *Journal of Systems and Software*, vol. 82, no.10, 2009, 1709-1729.
(8) J. Ding, P. Clarke, G. Argote, and X. He: "A Methodology for Evaluating Test Adequacy Coverage Criteria of High Level Petri Nets", *Information and Software Technology*, vol.51, 2009, 1520-1533.
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(14)   X. He, H. Yu, T. Shi, J. Ding, and Y. Deng: "Formally Analyzing Software Architectural Specifications Using SAM", *Journal of Systems and Software*, vol.71, no.1-2, 2004, 11-29.

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(54)   Reng Zeng, Zhuo Sun, Su Liu, and Xudong He: "A Method for Improving the Precision and Coverage of Atomicity Violation Predictions", *Proc. of 21st International Conference on Tools and Algorithms for the Construction and Analysis of Systems* (*TACAS* 15), LNCS vol. 9035, London, UK, April 11 – 18, 2015, 116 – 130.

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(68)   L. Chang and X. He: "Specifying Agent Knowledge using Predicate Transition Nets", *Proc. of Workshop on Petri Nets and Distributed Systems* (*PNDS09*), Paris, France, June, 2009.

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(124) W. Chu, J.Shiu, C. Lu, and X. He: "A Semi-Formal Approach to Assist Software Design with Reuse", *Proc. of International Conference on Software Maintenance* (*ICSM*'99), Oxford, England, 1999, 256-264.

(125) X. He, F. Zeng, and Y. Deng: "Specifying Software Architectural Connectors in SAM*", Proc. of 11th International Conf. on Software Engineering and Knowledge Engineering* (*SEKE*'99), Kaiserlautern, Germany, 1999, 144-151 (Best Paper Award).

(126) X. He, W. Chu, H. Yang, and S. Yang: "A Reachability Graph Technique for Verifying Rule Based Systems", *Proc. of the 23rd International Computer Software and Application Conference* (*COMPSAC*'99), Pheonix, Arizona, 1999, 462-467.

(127) J. Wang, Y. Deng, and X. He: "A Formal Architectural Specification Model for Real-Time Systems", *Proc. of the IASTED Conference on Software Engineering* , Las Vegas, 1998, 11-14.

(128) S. Lewandowski and X. He: "A Java Framework for Implementing Hierarchical Predicate Transition Nets", *Proc. of the 10th International Conference on Software Engineering and Knowledge Engineering* (*SEKE*'98), San Francisco, 1998, 261-268.

(129) X. He: "Transformations on Hierarchical Predicate Transition Nets: Abstractions and Refinements", *Proc. of the 22nd International Computer Software and Application Conference* (*COMPSAC*'98), Vienna, Austria, 1998, 164-169.

(130) X. He and W. Yao: "From Hierarchical Predicate Transition Nets to CC++ Program Skeletons - Translation Architecture and Rules", *Proc. of the 21th Annual International Compouter Software and Applications Conference (COMPSAC'97)*, Washington, D.C., 1997, 64-69.

(131) X. He and Y. Ding: "Object-Oriented Specification using Hierarchical Predicate Transition Nets", *Proc. of 2nd International Workshop on Object-Oriented Programming and Models of Concurrency* (*OOMC*'96), Osaka, Japan, 1996, 72-79.

(132) W. Yao and X. He: "Mapping Petri Nets to Parallel Programs in CC++", *Proc. of the 20th Annual International Compouter Software and Applications Conference (COMPSAC'96)*, Seoul, Korea, 1996, 70-75.

(133) X. He: "A Formal Definition of Hierarchical Predicate Transition Nets", *Proc. of the 17th International Conference on Application and Theory of Petri Nets (ICATPN'96), Lecture Notes in Computer Science*, vol. 1091, Osaka, Japan, 1996, 212-229.

(134) X. He: "A Method for Analyzing Properties of Hierarchical Predicate Transition Nets", *Proc. of the 19th Annual International Computer Software and Applications Conference* (*COMPSAC*'95), Dallas, TX, August, 1995, 50-55.

(135) X. He: "PZ Nets - A Formal Method Integrating Petri Nest with Z", *Proc. of the 7th International Conference on Software Engineering and Knowledge Engineering* (*SEKE*'95), Rockvill, MD, June, 1995, 173-180.

(136) C. Kan and X. He: "Algebraic Petri Nets and Their Applications", *Proc. of the ACM Annual Computing Science Conference (CSC'94)*, Phoenix, Arizona, March, 1994, 396-403.

(137) X. He and Y. Ding: "A Temporal Logic Approach for Analyzing Safety Properties of Predicate Transition Nets", *Proc. of the 12th IFIP World Computer Congress (Information Processing'92),* Madrid, Spain, 1992, 127-133.

(138) X. He and C.H. Yang: "Structured Analysis Using Hierarchical Predicate Transition Nets", *Proc. of the 16th Int'l Computer Software and Applications Conf. (COMPSAC'92)*, Chicago, 1992, 212-217.

(139) X. He: "Specifying and Verifying Real-Time Systems Using Time Petri Nets and Real-Time Temporal Logic", *Proc. of the 6th Annual Conference on Computer Assurance (COMPASS'91)*, Gaithersburg, MD, June, 1991, 135-140.

(140) X. He: "Temporal Predicate Transition Nets and Their Applications", *Proc. of the 14th Int'l Computer Software and Applications Conference (COMPSAC'90)*, Chicago, 1990, 261-266.

(141) X. He and J.A.N. Lee: "A New Methodology for Writing Predicate Transition Petri Nets Specifications", *Proc. of the 1st Annual Symposium on Parallel and Distributed Processing*, Dallas, Texas, May , 1989, 26-27.

(142)   X. He and J.A.N. Lee: "Deriving Temporal Logic Specifications from Predicate Transition Petri Net Specifications", *Proc. of the 1st Int'l Conference on Software Engineering and Knowledge Engineering (SEKE90)*, Chicago, June, 1989, 116-121.

(143)   X. He, R. Iyengar and J. Roach: "A Systematic Study of Unification", *Proc. of the 3rd International Symposium on Knowledge Engineering*, Madrid, Spain, Oct. 1988, 27-36.

(144)   X. He and J.A.N. Lee: "A Strategy for Integrating Formalisms in Software Development", *Proc. of the 6th Annual CIPS Edmonton Computer Conference*, Edmonton, Canada, Nov. 1988, 33-42.

(145)   X. He, R. Russell and J.W. Dickey: "Workload Analysis Expert System and Optimizer", *Proc. of the 7th International Conference on Cybernetics and Systems*, London, Sept. 1987, 68-73.

FUNDED RESEARCH

(1) X. He (PI): "A Runtime Checker with Evolutionary Algorithm Decision Making", Air Force Research Lab., $349,757, 1/2015-12/2017.

(2) X. He (co-PI): "Center for Innovative Information Systems Engineering", NSF, HRD-0833093, $5,000,000, 8/2008 – 7/2015. **Component PI** with budget $825,000, 8/2008-7/2015.

(3) X. He (PI): "Petri Nets Controller for Robotic Grasping", NSF SBIR IIA, subcontract from Energid, Inc., $70,000. 9/15/11 – 12/15/12.

(4) X. He (co-PI): "Graduate Assistance in Computer Science at Florida International University", Department of Education, $545,000, 9/1/09 – 8/30/2012.

(5) X. He (PI): "An Integrated Software Tool for Modeling and Model-based Control of Semiconductor Manufacturing Equipment", *NSF SBIR IIA* subcontract from SC Solutions, Inc., $105,000, 5/1/08 – 4/31/09.

(6) X. He (PI): "Graduate Assistance in Computer Science at Florida International University", *Department of Education*, $383,643, 9/1/07 – 8/30/2010.

(7) X. He (PI): "Development of New Simulation Software for Advanced Energy Systems", *NSF, HRD-0317692* (Supplement), $100,000, 8/1/06 – 7/31/07.

(8) X. He (PI): "Distributed Flexible-Resource Scheduling in Production Systems", *NSF SBIR IIA* subcontract from LS Optimal, Inc., $105,000, 8/1/06 – 7/31/07.

(9) X. He (co-PI): "Center of Emerging Technologies for Advanced Information Processing and High-Confidence Systems", *NSF*, *HRD*-0317692, $4,500,000, 8/2003 – 7/2008. **Component PI** with budget $900,000, 8/2003-7/2008.

(10)   X. He (PI): "Specification and Analysis of Software Architectures of High-Assurance Systems", *NASA*, NAG2-1440, *Faculty Award for Research*, $287,338, 10/1/2000 – 9/30/2003.

(11)   X. He (co-PI): "CREST: Florida A&M University/Florida International University Center for Distributed Computing: Theory, Development and Application", *NSF*, *HRD*-9707076, $5,000,000 (9/1/97 – 8/31/02). **Component PI** with budget $400,000, 9/1/00 – 8/31/03.

(12)   X. He (PI): "A Theory and Methodology for Testing Concurrent Software Systems", *NSF*, $29,013, 5/1/98 – 4/31/2001.

(13)   X. He (PI): "Deriving Formal Specifications from Informal Object-Oriented Specifications", *DoD*, *ONR*, $323,619, 5/15/98 – 5/15/2001.

(14)   X. He (PI): "Deriving Formal Specifications from Object-Oriented Analysis", *NSF*, *EPSCoR* (Experimental Programs for Stimulating Competitive Research), $10,000, 7/1/97 – 6/30/98.

(15)   X. He (PI): "Theory, Analysis and Application of Hierarchical Predicate Transition Nets", *NSF*, *Research Initiation Award*, $85,878, 8/15/93 – 7/31/97.

(16)   X. He (PI): "Specifying and Verifying Concurrent and Distributed Systems Using Hierarchical Predicate Transition Nets", *NDSU*, *Seed Grant*, $4,000, 5/1/95 – 4/31/96.

(17)   X. He (PI): "Specifying and Verifying Concurrent and Distributed Systems Using Hierarchical Predicate Transition Nets", *NSF*, *EPSCoR*, $48,000, 10/15/92 – 6/30/95.

(18)   X. He (PI): "Integrating Predicate Transition Nets with the Algebraic Approach in the Formal Specification of Software Systems", *NSF*, *EPSCoR*, $14,000, 10/15/90 – 10/15/91.

TEACHING

Courses Taught at FIU
(1) CEN4010 Software Engineering I (spring 2004, fall 2007, spring 2016)
(2) CEN4021 Software Engineering II (spring 2013)
(3) CEN5011 Advanced Software Engineering (fall 2000 & 2001, summer 2004, fall 2012, 2013, spring 2017)
(4) CEN5064 Software Design (spring 2006)
(5) CEN5087 Software and Data Modeling (fall 2013, 2016, 2017 & spring 2014 – 2017)
(6) CEN 6070 Software Verification (fall 2006 & 2008, spring 2010, 2012)
(7) CEN6075 Software Specification (fall 2005-2007, spring 2011 & 2014)
(8) CEN6612 Advanced Topics in Software Engineering (spring 2001 & 2003)
(9) CEN6993 Software Verification (spring 2005)
(10)   COP6556 Semantics of Programming Languages (spring 2000, 2002, 2004, 2011)
(11)   COT4555 Principles of Programming Languages (fall 2011, spring 2012, summer 2014 - 2017)
(12)   COT6405 Analysis of Algorithms (spring 2000 & 2001, fall 2002 & 2003)
(13)   COT6421 Theory of Computation II (spring 2002 & 2003, fall 2010)
(14)   CIS5900 Independent Studies (taught over 20 independent studies since 2000).

Courses Taught at North Dakota State Univ.
(1) CS222 Discrete Mathematics (fall, 1995)
(2) CS213 System Analysis and Design (fall, 1989 - 91)
(3) CS313 System Testing and Maintenance (winter, 1990 - 92)
(4) CS316 System Testing and Maintenance (spring, 1993-98)
(5) CS413 Information Systems Design (spring, 1990 - 92)
(6) CS508 Math. Foundations of Prog. Methodology (fall, 1990)
(7) CS526 Automated Theorem Proving (spring, 1990)
(8) CS583 Formal Methods in Software Eng. (winter, 1991)
(9)   CS713 Software Engineering I (fall, 1992-97, 99)
(10)   CS714 Software Engineering II (spring, 1993 & 95 & 97-98)
(11)   CS783 Software Design Patterns & Architectures (spring, 1996)
(12)   CS789 Automated Theorem Proving (spring, 1994)

GRADUATE STUDENT ADVISING

I am the sole major advisor or co-advisor identified by *, of the following students. I have also served on about 100 M.S. and Ph.D. theses committees.

Graduates at FIU

S. Liu (Ph.D.) 7/14	**R. Zeng** (Ph.D.) 7/13	**L. Chang** (Ph.D.) 4/11
G. Argote (Ph.D.), 4/09	***W. Sun** (Ph.D.), 4/08	**Y. Fu** (Ph.D.), 4/07
Z. Dong (Ph.D.), 7/06	**T. Shi** (Ph.D.), 4/06	***S. Gao** (Ph.D.), 12/05
L. Mo (Ph.D.), 11/04	**J. Ding** (Ph.D.), 4/04	S. Miner (M.S.), 9/04
A. Awadallah (M.S.), 4/04	S. Gururaj (M.S.), 11/03	V. Masuram (M.S.), 6/03
X. Li (M.S.), 11/02	N. Gupta (M.S.), 11/01	T. Millege (M.S.), 11/01
W. Caldwell (M.S.), 11/01	R. Fernandez (M.S.), 11/01	*J. Ding (M.S.), 7/00
* Y. Zhu (M.S.), 7/00		

Graduates at NDSU

H. Reza (Ph.D.), 4/02	**W. Yao** (Ph.D.), 4/96	**C.Y. Kan** (Ph.D.), 4/94
S. Ahmed (M.S.), 7/00	B. Marthi (M.S.), 12/99	W. Wang (M.S.), 12/99
U. Kelda (M.S.), 12/99	Y. Hou (M.S.), 12/99	M. Qin (M.S.), 11/99
Y. He (M.S.), 7/98	T. Al-Rushaid (M.S.), 4/98	S. Zhou (M.S.), 4/98
S. Cong (M.S.), 3/98	M. Chowdhury (M.S.), 8/97	Q. Chen (M.S.), 5/97
X. Zhou (M.S.), 4/97	D. Ingala (M.S.), 4/97	X. Ma (M.S.), 8/96
H. Winands (M.S.), 5/96	X. Tong (M.S.), 5/96	S. Bhaskara (M.S.), 12/95
Q. Wang (M.S.), 12/95	T.B. Mohan (M.S.), 11/95	S. Jayaraman (M.S.), 4/95
S. Barua (M.S.), 12/94	S. Rizwan (M.S.), 12/94	S. Shie (M.S.), 6/94 \
V. Krishnan (M.S.), 12/93		

Current Graduate Students at FIU: 2 Ph.D. (1 passed Candidacy exam & 1 passed Ph.D. proposal defense)

PROFESSIONAL HONORS & AWARDS

- Annual Faculty Service Excellence Award, School of Computing and Information Sciences, FIU, 2013.
- Annual Faculty Research Excellence Award, School of Computing and Information Sciences, FIU, 2009.
- Excellence in Faculty Scholarship, FIU, 2008.
- Executive Dean's Award in Service, College of Engineering and Computing, 2006.
- Ranked among the top 15 scholars in Systems and Software Engineering worldwide during 1999 – 2003 by *Journal of Systems and Software*, vol.76, no.1, 2005, 91-97.
- FIU Faculty Award for Excellence in Research, 2005.
- Annual Faculty Service Excellence Award, School of Computing and Information Sciences, FIU, 2005.
- Annual Faculty Teaching Excellence Award, School of Computer Science, FIU, 2003.
- Best Paper Award, The 11th International Conference on Software Engineering & Knowledge Engineering, 1999.
- Who's Who in Information Technology, 1997.
- Who's Who in Science and Engineering, 1995.
- Research Initiation Award, NSF, 1993.
- Who's Who Among Young American Profesionals, 1992
- Annual Graduate Student Research Excellence Award, Virginia Tech, 1989
- Epsilon Pi Upsilon, Virginia Tech, 1986.
- European and American Student Association Fellowship, Ministry of Education, China, 1985 – 1986.

PROFESSIONAL ACTIVITIES

Editorial Board

- *Transactions on Application and Theory of Petri Nets and Other Concurrency Models*, Springer Verlag.
- *Software Engineering Journal,* International Scholar Research Network.
- *Advances in Software Engineering,* Hindawi Publishing Co.
- *Universal Journal of Software Engineering,* Hindawi Publishing Co.

Program Committees

- Served on program committees of 5 International Conferences, Symposia, and Workshops in 2017.
- Served on program committees of 5 International Conferences, Symposia, and Workshops in 2016.
- Served on program committees of 5 International Conferences, Symposia, and Workshops in 2015.
- Served on program committees of 4 International Conferences, Symposia, and Workshops in 2014.
- Served on program committees of 6 International Conferences, Symposia, and Workshops in 2013.
- Served on program committees of 8 International Conferences, Symposia, and Workshops in 2012.
- Served on program committees of 8 International Conferences, Symposia, and Workshops in 2011.
- Served on program committees of 10 International Conferences, Symposia, and Workshops in 2010.
- Served on program committees of 10 International Conferences, Symposia, and Workshops in 2009.
- Served on program committees of 10 International Conferences, Symposia, and Workshops in 2008.
- Served on program committees of 12 International Conferences, Symposia, and Workshops in 2007.
- Organizing Chair, 26th International Conference of Applications and Theory of Petri Nets (ICATPN), Miami, June, 2005.
- 27th International Conference of Applications and Theory of Petri Nets (ICATPN), 2006.
- 16th and 17th International Conference on Software Engineering and Knowledge Engineering (SEKE), 2005 & 2006.
- ACM / IEEE 8th International Conference on Model Driven Engineering Languages and Systems – Symposium on Education, Jamaica, Oct. 2005,
- International Workshop on Agent-Oriented Software Development Methodologies (AOSDM), 2005 & 2006
- International Workshop on Integration of Software Engineering and Agent Technology (ISEAT), 2006.
- International Conference on Software Engineering Research and Practice (SERP), 2005 & 2006.
- 5th & 6th International Conference on Quality Software (QSIC), 2005 & 2006.
- 3rd & 4th Workshop on Modeling, Verification, Validation, and Simulation of Enterprise Information Systems, 2005 & 2006.
- 1st – 3rd International Workshop on Quality Assurance and Testing of Web-based Applications, 2004 - 2006
- 25th International Conference of Applications and Theory of Petri Nets (ICATPN), 2004
- 15th IEEE International Conferences on Tools with Artificial Intelligence, 2003.
- IEEE International Conference on Information Reuse and Integration (IRI), 2003 – 2006
- 1st IEEE Multimedia Software Engineering Conference (MSE), 2002
- 16th IFIP World Computer Congress (WCC), 2000
- 20th, 21st, 22nd, 23rd, 24th, 25th Int'l Computer Software and Applications Conf. (COMPSAC), 1996 – 2001.
- 3rd, 5th IEEE High-Assurance Systems Eng. Symp. (HASE), 1998 & 2000.
- Vice Program Chair, 21st Int'l Computer Software and Applications Conf. (COMPSAC'97), 1997.

Currricula Committee
- Member of the Discrete Structure Group of the Joint IEEE Computer Society/ACM Task Force on the "Year 2001 Model Curricula for Computing" (CC-2001), 1998 – 2001.

Reviewer
- National Science Foundation - Software Engineering Division Research Proposals
- ACM Transactions on Software Engineering and Methodology
- Formal Aspects of Computing
- IEEE Transactions on Software Engineering
- IEEE Transactions on Data and Knowledge Engineering

- IEEE Transactions on Parallel and Distributed Systems
- IEEE Transactions on Systems, Man, and Cybernetics
- IEEE Transactions on Robotics and Automation
- International Journal of Foundations of Computer Science
- Information and Software Technology
- Journal of Systems & Software
- Annals of Software Engineering
- The Computer Journal
- International Journal of Software Engineering and Knowledge Engineering
- IEEE Computer
- IEEE Software
- Many international conferences

Membership
- ACM – Senior member
- IEEE Computer Society – Senior member

UNIVERSITY SERVICE

FIU
- Graduate Committee Chair, School of Computing and Information Sciences, 8/2009 – 8/2018.
- Human Resource Committee Chair, 8/2015 – 5/2016.
- Human Resource Committee Member, 2010 – 2013, 2016, 2017, 2018.
- Graduate Program Director, School of Computing and Information Sciences, 8/2006 – 6/2009.
- Director, Center for Advanced Distributed System Engineering, School of Computer Science, 8/2000 – 12/2013.
- College Profession Committee, College of Engineering and Computing, 2005 – 2011.
- Panel reviewer, 2003 FIU Research Foundation Provost's Summer Research Proposal Competition, 2003.
- School of Computer Science Library Committee Representative, College of Arts and Science, 1/2000 – 1/2002.
- Graduate Committee Chair, School of Computer Science, 8/2000 – 8/2006.
- Faculty Recruitment Committee Member, School of Computer Science, 2002 & 2003.
- Computer Science Foundation Area Coordinator, 8/2012 – 8/2015.
- Software Engineering Area Coordinator, New Graduate Course Development, School of Computer Science, 2003 – 2010.
- Coordinator, Undergraduate Software Engineering Area Accreditation, School of Computer Science, 2003.
- Member, Human Resource Committee, School of Computer Science, 2001 – 2002.
- College Library Representative, School of Computer Science, 2000 – 2002.
- Graduate Thesis Committee Member of 20+ Students, School of Computer Science, 2000 – date.
- Ph.D. Qualifying Exam Member of 30+ Students, School of Computer Science, 2000 – date.

NDSU
- Steering Committee Member, NDSU Cultural Diversity Committee, 1996 – 1999.
- Tenure & Promotion Committee Member, College of Arts & Science, 1997 – 1999.
- Graduate Committee Member, Department of Computer Science, 1990 – 1999.

- Faculty Recruitment Committee Member, Department of Computer Science, 1990 – 1992 & 1995 – 1997.
- Graduate Thesis Committee Member of 50+ Students, Department of Computer Science, 1989 – 1999.