Curriculum Vitae

Xuejun Liang
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Education:

1997-2001	Ph.D. in Computer Science and Engineering, Wright State University, Dayton, OH
1982-1985	M.S. in Mathematics, Beijing Normal University, Beijing, China
1978-1982	B.S. in Mathematics, Beijing University of Sci. & Tech., Beijing, China

Professional Appointments:

2018-present	*Assistant Professor*, Department of Computer Science, California State University Stanislaus, Turlock, CA, USA
2002-2018	*Associate Professor* (08-18), *Assistant Professor* (02-08), Department of Computer Science, Jackson State University, Jackson, MS, USA
1997-2001	*Graduate Research Assistant*, Department of Computer Science and Engineering, Wright State University, Dayton, OH, USA
1996-1997	*Visiting Scholar*, Department of Electrical Engineering, Wright State University, Dayton, OH, USA
1985-1997	*Associate professor* (94-97), *Assistant professor* (88-94), *Instructor* (85-88), Department of Mathematics, Beijing Normal University, Beijing, China

Research Interests:

- Fuzzy Set Theory and Application
- FPGA Reconfigurable Computing Application
- Design Environment of Reconfigurable Computers
- Computer Architecture and Parallel Computing
- Artificial Intelligence and Robotics
- Data Science and Machine Learning

Grants and Awards:

1. JSU-Verizon Innovative Learning Minority Male Summer Program, Verizon, Senior Personnel, 2015-2018
2. BPC-AE: Collaborative Research: The ARTSI Alliance: Advancing Robotics Technology for Societal Impact, NSF, PI, 1/1/2011 to 12/31/2012, $28,032
3. HBCU Student Stipend, Hampton University, PI, Hampton University, $6,000
4. Undergraduate Research Program in Wireless Ad hoc Networks and Sensor Networks, NSF, Senior Personnel, 01/15/2009 to 12/31/2011, $319,989
5. HBCU/MEI Summer Faculty Research Participation Program at ORNL, ORAU, Participant, 5/24/2004-7/30/2004

6. Excellence in Graduate Education, Graduate School, Jackson State University, 2003-2004
7. PET CE: Data Management and I/O for DoD Applications, MSU, PI, 10/2002 to 9/2003, $25,000

Computer Software Tools:

1. Xuejun Liang, Computer Architecture Simulators for Different Instruction Formats, Fall 2020, available at https://www.cs.csustan.edu/~xliang/Courses/SimulatorWeb/index.htm
2. Xuejun Liang, MarieSimEx: The Marie Computer Simulator Extension, June 2021, available at https://www.cs.csustan.edu/~xliang/Courses/MarieSimExWeb/index.htm
3. Xuejun Liang, MarieSimR: The Marie Computer Simulator Revision, September 2021, available at https://www.cs.csustan.edu/~xliang/Courses/MarieSimRWeb/index.htm

Peer-Reviewed Journal and Conference Papers:

1. **Xuejun Liang**, MarieSimR: The MARIE Computer Simulator Revision, in the proceedings of 2021 International Conference on Computational Science and Computational Intelligence (CSCI 2021), pp. 913-919, Las Vegas, Nevada, USA, Dec 15-17, 2021
2. **Xuejun Liang**, More on Computer Architecture Simulators for Different Instruction Formats, in the proceedings of 2020 International Conference on Computational Science and Computational Intelligence (CSCI 2020), pp. 910-916, Las Vegas, Nevada, USA, Dec 16-18, 2020
3. **Xuejun Liang**, Computer Architecture Simulators for Different Instruction Formats, in the proceedings of the 6th Annual Conference on Computational Science and Computational Intelligence (CSCI 2019), pp. 806-811, Las Vegas, Nevada, USA, Dec 05-07, 2019
4. **Xuejun Liang**, Ali A. Humos, and Tzusheng Pei, Vectorization and Parallelization of Loops in C/C++ Code, in Proceedings of The 3th International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS'17), pp. 203-206, Las Vegas, Nevada, USA, July 17-20, 2017
5. Mesafint Fanuel, Tzusheng Pei, Ali Abu El Humos, **Xuejun Liang**, and Hyunju Kim, Version Control Open Source Software for Computer Science Programming Courses, in Proceedings of The 15th International Conference on Software Engineering Research and Practice (SERP'17), pp. 127-130, Las Vegas, Nevada, USA, July 17-20, 2017
6. Abu El Humos, S. Hong, J. Jackson, **X. Liang**, T. Pei and B. Aldrich, Incorporating PDC Modules into Computer Science Courses at Jackson State University, Workshop on Education for High-Performance Computing EduHPC 15, in conjunction with the 29th IEEE International Parallel & Distributed Processing Symposium, Hyderabad, India, May 25-29, 2015
7. **Xuejun Liang,** Loretta A. Moore, and Jacqueline Jackson, Programming at Different Levels: A Teaching Module for Undergraduate Computer Architecture Course, in Proceedings of the 2014 International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS'14), pp.77-83, Las Vegas, Nevada, USA, July 22-25, 2014
8. **Xuejun Liang**, Coaching Robotics Competitions with Tekkotsu, in Proceedings of the 2013 International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS'13), pp.355-361, Las Vegas, Nevada, USA, July 21-25, 2013
9. **Xuejun Liang**, Developing Robot Programming Lab Projects, in Proceedings of the 2012 International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS'12), pp.59-65, Las Vegas, Nevada, USA, July 16-19, 2012
10. **Xuejun Liang**, Translating Robotics Course Materials from Elite Research I Universities to Historically Black Colleges and Universities, in Proceedings of the 24th Florida Artificial Intelligence Research Society Conference (FLAIRS-24), Palm Beach, FL, May 18-20, 2011

11. **Xuejun Liang**, A Survey of Hands-on Assignments and Projects in Undergraduate Computer Architecture Courses, in Proceedings of International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CISSE 07), December 3-12, 2007

12. **X. Liang** and Q. Malluhi, Combinatorial Optimization in Mapping Generalized Template Matching onto Reconfigurable Computers, in Proceedings of the 2006 International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA' 06), pp. 223-226, Las Vegas, Nevada, USA, June 2006

13. **Xuejun Liang**, Computation Core Binding in GTM Mapping on Reconfigurable Computers, in Proceedings of 44th ACM Southeast Conference, pages 764-765, March 2006

14. **Xuejun Liang**, Jeffrey S. Vetter, Melissa C. Smith, and Arthur S. Bland, Balancing FPGA Resource Utilities, in Proceedings of the 2005 International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA' 05), pp. 156-162, Las Vegas, Nevada, USA, June 2005

15. Melissa C. Smith, Jeffrey S. Vetter, **Xuejun Liang**, Accelerating Scientific Applications with the SRC-6 Reconfigurable Computer: Methodologies and Analysis, in Proceedings of the 19th IEEE International Parallel and Distributed Processing Symposium (IPDPS'05), Denver, CO, April 2005

16. **X. Liang** and J. Jean, Mapping of Generalized Template Mapping on Reconfigurable Computers, IEEE Trans. on VLSI System, 11(3): 485-498, 2003

17. **X. Liang** and J. Jean, Memory Access Scheduling and Loop Pipelining, in Proceedings of the 2002 International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA' 02), pp. 183-189, Las Vegas, Nevada, USA, June 2002

18. J. Jean and **X. Liang**, X. Guo, H. Zhang, and, F.Wang, Initial Results of GOM (GTM Optimal Mapping), in Proceedings of the 2002 International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA' 02), pp. 146-152, Las Vegas, Nevada, USA, June 2002

19. **X. Liang**, J. Jean and K. Tomko, Data Buffering and Allocation in Mapping Generalized Template Matching on Reconfigurable Systems, Journal of Supercomputing, Special Issue on Engineering of Reconfigurable Hardware/Software Objects, 19(1): 77-91, 2001

20. **X. Liang** and J. Jean, Memory Access Pattern Enumeration in GTM Mapping on Reconfigurable Computers, in Proceedings of the 2001 International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA' 01), pp. 8-14, Las Vegas, Nevada, USA, June 2001

21. J. Jean, **X. Liang**, B. Drozd, K. Tomko, and Y. Wang, Automatic Target Recognition with Dynamic Reconfiguration, Journal of VLSI Signal Processing 25, pp.39-53, 2000

22. **X. Liang** and J. Jean, Interface Design for the Matching of Generalized Template Matching on Reconfigurable Systems, in Proceedings of the 2000 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA' 00), pp. 159-165, Las Vegas, Nevada, USA, June 2000

23. J. Jean, **X. Liang**, and K. Tomko, Data Buffering and Allocation in Mapping Generalized Template Matching on Reconfigurable Systems, in Proceedings of the 1999 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA' 99), pp. 1111-1117, Las Vegas, Nevada, USA, June 1999

24. J. Jean, **X. Liang**, B. Drozd, and K. Tomko, Accelerating an IR Automatic Target Recognition Application with FPGAs, in Proceedings of IEEE Symposium on Field- Programmable Custom Computing Machine (FCCM 1999), pp. 290-291, April 1999

25. **Xuejun Liang**, Decomposition of Pseudo Metric on Lattices, Journal of Beijing Normal University (Natural Science), 31(1): 16-19, 1995

26. **Xuejun Liang**, More About Axiomatic Description on the Quasi-Neighbor Element Structure, Journal of Beijing Normal University (Natural Science), 31(4): 427-429, 1995

27. **Xuejun Liang**, Type 2 Random Sets and Membership Degree Analysis, in Proceedings of Symposium of Mathematics and Applications, China Atmosphere Press, pp. 112-117, 1995

28. **Xuejun Liang** and E. Stanley Lee, Relation and Topology – Neighbor Element Structure and Convergence in Relations, Journal of Mathematical Analysis and Application, 186(2): 414-441, 1994

Student Research Paper, Abstracts, Posters, and Presentations

1. Emma Van Hoogmoed, Teaching Robots Biologically Inspired Tasks, in The Stanislaus State University Honors Program Journal of Exploratory Research, Volume 18, Spring 2021. Advisor: Xuejun Liang
2. Emma Van Hoogmoed, Teaching Robots Biologically Inspired Tasks, Poster presented in UCLA National McNair Scholar Conference, 2020. Advisor: Xuejun Liang
3. Antonia Perez, Applications with 3D Printed Robots, Poster presented in College of Science Poster Celebration at CSU-Stan, Spring 2020. Advisor: Xuejun Liang
4. Antonia Perez, Controlling Robots with Android Applications, Poster Presented in College of Science Poster Celebration at CSU-Stan, Spring 2019. Advisor: Xuejun Liang

Technical/Final Reports, Abstracts, and Extended Abstracts

1. **Xuejun Liang**, A Teaching Module of Vectorization and Parallelization of Loop Computations in C/C++ Programs, Mid-Southeast Chapter of the ACM 2016 Fall Conference, Gatlinburg, TN, Nov. 10-11, 2016
2. Mia Williams, Ali Abu El Humos, Jacqueline Jackson and **Xuejun Liang**, Developing an Android App to Control a Bluetooth Enabled Robot, NAAAS & Affiliates 24th Joint National Conference, Baton Rouge, Louisiana, February 8-13, 2016
3. Nahu Merawi, Ali Abu El Humos, Jacqueline Jackson and **Xuejun Liang**, An Undergraduate Research Project: Creating an Android App to Control Boe-Bot Robot via Bluetooth Technology, LSUS Student Scholar Forum, Shreveport, Louisiana, February 19, 2016
4. Abu El Humos, S. Hong, J. Jackson, **X. Liang** and T. Pei, "NSF/TCPP Early Adopter Experience at Jackson State University Department of Computer Science". Workshop on Education for High-Performance Computing EduHPC 14, in conjunction with SC-14: The International Conference for High Performance Computing, Networking, Storage, and Analysis, New Orleans, LA, November 16-21, 2014
5. **Xuejun Liang**, Computing with Using Computers at Different Levels: A Teaching Module for Undergraduate Computer Architecture Course, Mid-Southeast Chapter of the ACM 2013 Fall Conference, Gatlinburg, TN, Nov. 14-15, 2013
6. **Xuejun Liang**, Outcome Report of BPC-AE: Collaborative Research: The ARTSI Alliance (Jan 1, 2011 - Dec 30, 2012), June 2013
7. **Xuejun Liang**, Teaching Robotics Vision Applications Using Tekkotsu, Mid-Southeast Chapter of the ACM 2012 Fall Conference, Gatlinburg, TN, Nov. 15-16, 2012
8. **Xuejun Liang**, Developing and Teaching a Robotics Course, Mid-Southeast Chapter of the ACM 2010 Fall Conference, Gatlinburg, TN, Nov. 11-12, 2010
9. A.S. Bland , J.B. Drake , **X. Liang**, P.F. LoCascio, P.K. Nukala, M.C. Smith, P.H. Worley , J. B. White, III , J.S. Vetter, Scaling Climate Models for Future Computer Architectures, ORNL Project Final Report, November 2004
10. **Xuejun Liang**, Mapping the PSTSWM Code onto the SRC 6E Reconfigurable Computer, HBCU/MEI Faculty Summer Research Program Report, August 2004
11. **Xuejun Liang**, Converting FEMWATER from Unix style I/O to MPI-IO, PET CE Project Final Report, September 2003

Presentations at Professional Conferences:

1. **Xuejun Liang**, Computer Architecture Simulators for Different Instruction Formats, in the proceedings of The 6th Annual Conference on Computational Science and Computational Intelligence (CSCI 2019), pp. 806-811, Las Vegas, Nevada, USA, Dec 05-07, 2019
2. **Xuejun Liang**, Ali A. Humos, and Tzusheng Pei, Vectorization and Parallelization of Loops in C/C++ Code, The 13th International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS'17), Las Vegas, Nevada, USA, July 17-20, 2017
3. Mesafint Fanuel, Tzusheng Pei, Ali Abu El Humos, **Xuejun Liang**, and Hyunju Kim, Version Control Open Source Software for Computer Science Programming Courses, The 15th International Conference on Software Engineering Research and Practice (SERP'17), Las Vegas, Nevada, USA, July 17-20, 2017

4. **Xuejun Liang**, A Teaching Module of Vectorization and Parallelization of Loop Computations in C/C++ Programs, Mid-Southeast Chapter of the ACM 2016 Fall Conference, Gatlinburg, TN, Nov. 10-11, 2016.

5. **Xuejun Liang,** Loretta A. Moore, and Jacqueline Jackson, Programming at Different Levels: A Teaching Module for Undergraduate Computer Architecture Course, The 10th International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS'14), Las Vegas, Nevada, USA, July 22-25, 2014.

6. **Xuejun Liang**, Computing with Using Computers at Different Levels: A Teaching Module for Undergraduate Computer Architecture Course, Mid-Southeast Chapter of the ACM 2013 Fall Conference, Gatlinburg, TN, Nov. 14-15, 2013

7. **Xuejun Liang**, Coaching Robotics Competitions with Tekkotsu, the 2013 International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS'13), Las Vegas, Nevada, USA, July 21-25, 2013.

8. **Xuejun Liang**, Developing Robot Programming Lab Projects, the 2012 International Conference on Frontiers in Education: Computer Science and Computer Engineering (FECS'12), Las Vegas, Nevada, USA, July 16-19, 2012

9. **Xuejun Liang**, Teaching Robotics Vision Applications Using Tekkotsu, Mid-Southeast Chapter of the ACM 2012 Fall Conference, Gatlinburg, TN, Nov. 15-16, 2012.

10. **Xuejun Liang**, Developing and Teaching a Robotics Course, Mid-Southeast Chapter of the ACM 2010 Fall Conference, Gatlinburg, TN, Nov. 11-12, 2010.

11. **Xuejun Liang**, The Robotics Course at JSU, The 3rd Annual ARTSI Faculty Summer Workshop, Durham, NC, June 23-25, 2010

12. **Xuejun Liang**, A Survey of Hands-on Assignments and Projects in Undergraduate Computer Architecture Courses, the 2007 International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CISSE 07), December 3-12, 2007

13. **X. Liang** and Q. Malluhi, Combinatorial Optimization in Mapping Generalized Template Matching onto Reconfigurable Computers, the 2006 International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA'06), Las Vegas, Nevada, USA, June 2006

14. **Xuejun Liang**, Jeffrey S. Vetter, Melissa C. Smith, and Arthur S. Bland, Balancing FPGA Resource Utilities, the 2005 International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA'05), Las Vegas, Nevada, USA, June 2005

15. **X. Liang** and J. Jean, Memory Access Scheduling and Loop Pipelining, the 2002 International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA'02), Las Vegas, Nevada, USA, June 2002

16. **X. Liang** and J. Jean, Memory Access Pattern Enumeration in GTM Mapping on Reconfigurable Computers, the 2001 International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA'01), Las Vegas, Nevada, USA, June 2001

Professional Services:

- Program Committee Member of Computer Science Conference for CSU Undergraduates
- Program Committee Member of International Conferences:
  - Communications in Computing
  - Engineering of Reconfigurable Systems and Algorithms
  - Advanced Computing and Communication
- Reviewer of Academic Journals:
  - Journal of Supercomputing
  - Journal of VLSI Signal Processing Systems
  - IEEE Transactions on Computers
  - IEEE Transactions on VLSI System
  - ACM Transactions on Embedded Systems

Professional Membership:

- IEEE member

Courses Taught at Jackson State University:

1. Undergraduate Courses
   Programming Fundamentals (C++)/Lab, Object-Oriented Programming (C++)/Lab, Computer Architecture and Organization/Lab, Data Structures and Algorithms/Lab, Discrete Structures, Advanced Computer Architecture, Introduction to Robotics, Algorithm Design and Analysis.
2. Graduate Courses
   Design and Optimization of Digital Circuits, Computer Architecture, Automata Theory, Cryptography, Mobile Robotics, Compiler Construction, Computer Algorithms.

Courses at California State University - Stanislaus:

Computer Programming I, Assembly Language and Computer Architecture, Computer Organization, Mobile Robotics, Compiler Theory, Automata, Computability, and Formal Language, Coding and Information Theory.