

Shih-Hsi “Alex” Liu

Associate Professor
Department of Computer Science
California State University, Fresno
E-mail: shliu (at) csufresno (dot) edu
Web: <http://zimmer.csufresno.edu/~shliu/>
Phone: (559) 278-4789

EDUCATION

UNIVERSITY OF ALABAMA AT BIRMINGHAM, Birmingham, AL, USA

Ph.D. in Computer and Information Sciences (August, 2007)

- Research Interests: Software Engineering and Evolutionary Computation
- Thesis: QoSPL: A Quality of Service-Driven Software Product Line Engineering Framework for Design and Analysis of Component-Based Distributed Real-Time and Embedded Systems
- Committee: Dr. Barrett R. Bryant (Chair), Dr. Jeff Gray, Dr. Marjan Mernik, Dr. Rajeev Raje, and Dr. Chengcui Zhang

UNIVERSITY OF HOUSTON, Houston, TX, USA

Master of Science in Computer Science (December 2002)

NATIONAL CHIAO-TUNG UNIVERSITY, Hsin-Chu, Taiwan

Bachelor of Science in Computer and Information Science (June 2000)

- Senior Project Advisor: Dr. Jen-Hui Chuang

Scholarly Activities

Highlights:

- ***A total of 1221 citations with h-index = 12 and i10-index = 13 by Oct. 6, 2018 (retrieved from Google Scholar. 1070 citations since last promotion).***
- ***Active in 2 editorial boards, including Applied Soft Computing. (5-year impact factor = 4.004)***
- ***Research Gate: RG score 16.39, 950 citations last 16 month, 6080 reads from Research Gate for last 49 weeks (retrieved on Oct. 6, 2018)***

Publications

REFEREED JOURNALS

- Niki Veccek, Shih-Hsi Liu, Matej Crepinsek, Marjan Mernik, “On the Importance of the Artificial Bee Colony Control Parameter ‘Limit’,” *Information Technology and Control*, 46(4): 566-604 (2017).

- Matej Crepinsek, Shih-Hsi Liu, Luka Mernik, and Marjan Mernik, “Is a comparison of results meaningful from the inexact replications of computational experiments?” *Soft Computing*, (20)1: 223-235, 2016.
- Shih-Hsi Liu, Junichi Suzuki, Paul Leger, Hiroaki Fukuda, Marjan Mernik: Guest Editors’ Introduction. *International Journal of Software Engineering and Knowledge Engineering*, 25(5): 803-806, 2015.
- Marjan Mernik, Shih-Hsi Liu, Dervis Karaboga, and Matej Crepinsek, “On clarifying misconceptions when comparing variants of Artificial Bee Colony (ABC) Algorithm by offering a new implementation,” *Information Sciences*, 291: 115-127, 2015.
- Matej Crepinsek, Shih-Hsi Liu, and Marjan Mernik, “Replication and Comparison of Computational Experiments in Applied Evolutionary Computing: Common Pitfalls and Preliminary Guidelines to Avoid Them,” *Applied Soft Computing*, 19: 161-170, 2014.
- Shih-Hsi Liu, Marjan Mernik, Dejan Hrnčić, and Matej Crepinsek, “A Parameter Control Method of Evolutionary Algorithms using Exploration and Exploitation Measures with a Practical Application for Fitting Sovova's Mass Transfer Model,” *Applied Soft Computing*, 13(9): 3792-3805, 2013.
- Matej Crepinsek, Shih-Hsi Liu, and Marjan Mernik, “Exploration and Exploitation in Evolutionary Algorithms: A Survey,” *ACM Computing Surveys*, 45(3): Article 35, 2013.
- Matej Crepinsek, Shih-Hsi Liu, and Luka Mernik, “A Note on Teacher-Learner-Based Optimization Algorithm,” *Information Sciences*, 212: 79-93, 2012.
- Shih-Hsi Liu, Marjan Mernik, Junichi Suzuki, “Special Issue of Emerging Synergies of Artificial Intelligence and Software Engineering: Guest Editors’ Introduction,” *International Journal of Software Engineering and Knowledge Engineering*, 22(2): 157-159, 2012.
- Shih-Hsi Liu, Adam Cardenas, Marjan Mernik, Barrett R. Bryant, Jeff Gray, and Xang Xiong, “Domain-Specific Language Implementation using Service-Oriented Architecture,” *An International Journal of Multiagent and Grid Systems*, 8(1): 19-44, 2012.
- Rachel Harrison, Daniela Carneiro da Cruz, Pedro Rangel Henriques, Maria João Varanda Pereira, Shih-Hsi Liu, Tim Menzies, Marjan Mernik, Daniel Rodríguez: Report from the first international workshop on realizing artificial intelligence synergies in software engineering (RAISE 2012). *ACM SIGSOFT Software Engineering Notes* 37(5): 34-35, 2012.
- Matej Crepinsek, Marjan Mernik, and Shih-Hsi Liu, “Analysis of Exploration and Exploitation in Evolutionary Algorithms by Ancestry Trees,” *International Journal of Innovative Computing and Applications*, 3(1): 11-19, 2011
- Shih-Hsi Liu, Yu Cao, Ming Li, Pranay Kilaru, Thell Smith, and Shaen Toner, “A Biomedical Multimedia System under SOA,” *Journal of Multimedia*, 5(4): 352-360, 2010
- Shih-Hsi Liu, Marjan Mernik and Barrett R. Bryant, “To Explore or to Exploit: An Entropy-Driven Approach for Evolutionary Algorithms,” *International Journal of Knowledge-based and Intelligent Engineering Systems*, 13(3-4): 185-206, 2009

- Shih-Hsi Liu, Marjan Mernik and Barrett R. Bryant, “Entropy-Driven Parameter Control for Evolutionary Algorithms,” *Informatica: An International Journal of Computing and Informatics*, 31(1): 41-50, 2007

REFEREED BOOKS and BOOK CHAPTERS

- Shih-Hsi Liu, Yu Cao, Ming Li, Thell Smith, John Harris, Jie Bao, Barrett R. Bryant, and Jeff Gray, “Functional and QoS Semantics-Driven SOA based Biomedical Multimedia Processing,” in *Non-Functional Requirements and Properties in Service Oriented Architecture*, IGI Global, March 2011.
- Shih-Hsi Liu, Marjan Mernik, Mohammed Zubair, Matej Črepinšek, and Barrett R. Bryant, “PPCea: A Domain-Specific Language for Programmable Parameter Control in Evolutionary Algorithms,” in *Evolutionary Algorithms*, pp. 177-200, In-Tech, 2011.
- Shih-Hsi Liu, “Design Space Exploration for Distributed Real-Time and Embedded Systems: A Software Product Line Engineering Approach for Design and Analysis of Component-based Distributed Real-Time and Embedded Systems,” VDM-Verlag, 2010.
- Shih-hsi Liu, Barrett R. Bryant, Mikhail Auguston, Jeff Gray, Rajeev Raje and Mihran Tuceryan, “A Component-based Approach for Constructing High-confidence Distributed Embedded Systems,” *Proceedings of the Monterey Workshop Series: Workshop on Networked Systems: Realization of Reliable Systems on Top of Unreliable Networked Platforms*, Springer-Verlag LNCS 4322, pages 225-247, 2007.

REFEREED PROCEEDINGS PAPERS (CONFERENCES and WORKSHOPS)

- Amany Alnahdi, Shih-Hsi Liu, “Identifying Characteristic Attributes for Estimating Cost of Service in Service Oriented Architecture,” *IEEE International Conference on Services Computing*, page 467-470, 2017.
- Amany Alnahdi, Shih-Hsi Liu, “Mobile Internet of Things (MIoT) and its Applications for Smart Environments: A Positional Overview,” *IEEE International Conference on Internet of Things*, 2017, page 151-154, 2017.
- Amany Alnahdi, Austin Melton, Shih-Hsi Liu, “Web Service Description Quality Function Deployment (WSDQFD): Systematic Analytical Approach,” *IEEE World Congress on Services*, pages 132-133, San Francisco, USA, July, 2016.
- Amany Alnahdi, Shih-Hsi Liu, and Austin Melton, “Enhanced Web Service Matchmaking: A Quality of Service Approach”, *IEEE Services*, pages 341-348, New York City, USA, June, 2015.
- Deepa Raka, Shih-Hsi Liu, and Marjan Mernik, “Interoperable EMR Message Generation: A Model-Driven Software Product Line Approach,” the 24th *International Conference on Software Engineering and Knowledge Engineering (SEKE’12)*, pages 537-540, San Francisco, USA, July, 2012.
- Shih-Hsi Liu, Matej Crepinsek, Marjan Mernik, and Adam Cardenas, “Parameter Control of EAs Using Exploration and Exploitation Measures: Preliminary Results,” the 5th *International Conference on Bioinspired Optimization Methods and their Applications (BIOMA’12)*, pages 141-150, Bohinj, Slovenia, May 2012.

- Shih-Hsi Liu, Matej Crepinsek, and Marjan Mernik, “Analysis of VEGA and SPEA2 using Exploration and Exploitation Measures,” the 5th International Conference on Bioinspired Optimization Methods and their Applications (BIOMA’12), pages 97-108, Bohinj, Slovenia, May 2012.
- Shih-hsi Liu, Adam Cardenas, Xang Xiong, Marjan Mernik, Barrett R. Bryant, Jeff Gray, “*A SOA Approach for Domain-Specific Language Implementation,*” IEEE 2010 1st International Workshop on Service-Oriented Computing and Multi-Agent Systems (SOCMAS 2010), held at The IEEE 6th World Congress on Services, pages 535-542, Miami, FL, USA, July 5-10, 2010
- Matej Crepinsek, Marjan Mernik, Barbara Zadobovsek, and Shih-Hsi Liu, “Ancestry Tree as Base for Analysis of Exploration and Exploitation in Evolutionary Algorithms,” *the 4th International Conference on Bioinspired Optimization Methods and their Applications* (BIOMA’10), pages 31-42, Ljubljana, Slovenia, May 20-21, 2010
- Shih-hsi Liu, Adam Cardenas, Xang Xiong, Marjan Mernik, Barrett R. Bryant, and Jeff Gray, “Can Domain-Specific Languages Be Implemented by Service-Oriented Architecture?” the 25th ACM Symposium On Applied Computing (SAC’10), pages 2491 – 2492, Sierre, Switzerland, March 22-26, 2010
- Brent Auernheimer, Luís Carriço, Carlos Duarte, Shih-Hsi Liu, and Rui Lopes “Special track on Human Computer Interaction: editorial message,” *the 25th ACM Symposium on Applied Computing (SAC’10)*, pages 1157-1158, Sierre, Switzerland, March 22-26, 2010
- Shih-Hsi Liu, Yu Cao, Yili Li, Ming Li, Sanqing Hu, “Semantic Image Classification for Medical Videos,” *IEEE the 2009 International Workshop on Semantic Computing and Multimedia Systems*, held at the 3rd IEEE International Conference on Semantic Computing (ICSC’09), pages 648-653, September, 14-16, 2009
- Brent Auernheimer, Shih-Hsi Liu, “Special track on Human Computer Interaction: editorial message,” *the 24th ACM Symposium on Applied Computing (SAC’09)*, Hawaii, USA, March 9-12, 2009
- Yu Cao, Shih-hsi Liu, Ming Li, Shanqing Hu, “Medical Video Event Classification using Shared Features,” *the IEEE International Symposium on Multimedia (ISM’08)*, pages 266-273, Berkeley, CA, USA, December 15-17, 2008
- Shih-hsi Liu, Yu Cao, Ming Li, Pranay Kilaru, Thell Smith, Shaen Toner, “A Semantics- and Data-Driven SOA for Biomedical Multimedia Systems,” *Workshop of Data Semantics for Multimedia Systems and Applications (DSMSA’08)*, held at IEEE International Symposium on Multimedia (ISM’08), pages 533-538, December 15-17, 2008
- Yu Cao, Sung Bannng, Shih-hsi Liu, Ming Li, Shanqing Hu, “Audio-Visual Event Classification via Spatial-Temporal-Audio Words,” *the 19th International Conference on Pattern Recognition (ICPR’08)*, pages 1-5, Tampa, Florida, USA, December 8-11, 2008
- Robert Tairas, Shih-hsi Liu, Frédéric Jouault and Jeff Gray, “CoCloRep: A DSL for Code Clones,” *the 4th International Workshop on Software Language*

- Engineering (ATES'07)*, held at MODEL'07, pages 91-99, Nashville, Tennessee, USA, September 30-October 5, 2007
- Shih-hsi Liu, Marjan Mernik and Barrett R. Bryant, “A Clustering Entropy-Driven Approach for Exploring and Exploiting Noisy Functions,” *the 22nd ACM Symposium on Applied Computing (SAC'07)*, pages 738-742, Seoul, Korea, March 11-15, 2007
 - Shih-hsi Liu, Marjan Mernik and Barrett R. Bryant, “Entropy-Driven Exploration and Exploitation in Evolutionary Algorithms,” *Proceedings of the 2nd International Conference on Bioinspired Optimization Methods and their Applications (BIOMA'06)*, pages 15-24, October 9-10, 2006, Ljubljana, Slovenia
 - Shih-hsi Liu, Barrett R. Bryant, Jeff Gray, Rajeev Raje, Mihran Tuceryan, Andrew Olson and Mikhail Auguston, “QoSPL: A QoS-Driven Software Product Line Engineering Framework for Distributed Real-time and Embedded Systems,” *First International Workshop on Evaluation and Evolution of Component Composition*, held at *SEKE'06*, pages 724-729, San Francisco, California, USA, July 5-7, 2006
 - Shih-hsi Liu, Fei Cao, Barrett R. Bryant, Jeff Gray, Rajeev Raje, Andrew Olson and Mikhail Auguston, “Quality of Service-Driven Requirements Analyses for Component Composition: A Two-Level Grammar++ Approach,” *Proceedings of the 17th International Conference on Software Engineering and Knowledge Engineering (SEKE'05)*, pages 731-734, Taipei, Taiwan, July 14-16, 2005
 - Fei Cao, Barrett R. Bryant, Shih-hsi Liu and Wei Zhao, “A Non-Invasive Approach to Dynamic Web Service Provisioning,” *Proceedings of the 2005 IEEE International Conference on Web Services (ICWS'05)*, pages 229-236, Orlando, Florida, USA, July 12-15, 2005
 - Shih-hsi Liu, Barrett R. Bryant, Jeffrey G. Gray, Rajeev Raje, Andrew Olson, and Mikhail Auguston, “QoS-UniFrame: A Petri Net-based Modeling Approach to Assure QoS Requirements of Distributed Real-time and Embedded Systems,” *Proceedings of the 12th Annual IEEE International Conference and Workshop on the Engineering of Computer Based Systems (ECBS'05)*, pages 202-209, Greenbelt, Maryland, USA, April 4-7, 2005
 - Shih-hsi Liu, Barrett R. Bryant, Jeffrey G. Gray, Rajeev Raje, Andrew Olson, and Mikhail Auguston, “Two-Level Assurance of QoS Requirements for Distributed Real-Time and Embedded System Composition in UniFrame,” *the 20th ACM Symposium on Applied Computing (SAC'05)*, pages 903-904, Santa Fe, New Mexico, USA, March 13-17, 2005
 - Shih-hsi Liu, Marjan Mernik and Barrett R. Bryant, “Parameter Control in Evolutionary Algorithms by Domain-Specific Scripting Language PPC_{EA},” *Proceedings of the International Conference on Bioinspired Optimization Methods and their Applications (BIOMA'04)*, pages 41-50, Ljubljana, Slovenia, October 11-12, 2004
 - Shih-hsi Liu and Barrett R. Bryant, “Validation of Distributed Real-Time and Embedded System Composition in UniFrame,” *Proceedings of the 42nd Annual ACM Southeast Conference (ACMSE'04)*, pages 303-304, Huntsville, Alabama, USA, April 2-3, 2004

- Beum-Seuk Lee, Xiaoqing Wu, Fei Cao, Shih-hsi Liu, Wei Zhao, Chunmin Yang, Barrett R. Bryant, and Jeffrey G. Gray, “T-Clipse: an Integrated Development Environment for Two-Level Grammar,” *Proceedings of Eclipse Technology eXchange Workshop (OOPSLA)*, pages 91-95, Anaheim, California, USA, October 27, 2003

REFEREED POSTERS

- Paramjot Kaur (mentor: Shih-Hsi Liu), “Improving Software Quality of Qt-based Applications Using QTestLib Unit Testing Framework,” Graduate Research and Creative Activities Symposium, California State University, Fresno, May 3, 2012
- Pooja Raka (mentor: Shih-Hsi Liu), “SMART Irrigation System: Developing an application for SMART Pivots,” Graduate Research and Creative Activities Symposium, California State University, Fresno, May 3, 2012
- Adam Cardenas (mentor: Shih-Hsi Liu), “Reusable and Heterogeneous Smart Phone Application Development,” the 33rd Central California Research Symposium, Fresno, CA, USA, 2012
- Amany Alnahdi (mentor: Shih-Hsi Liu), “Semantic Web Service Matchmaking: A Quality of Service Approach,” Graduate Research and Creative Activities Symposium, California State University, Fresno, May 5, 2011
- Pushpeen Chhoker (mentor: Shih-Hsi Liu), “BCL: A Constraint Language for Business Process Execution Language,” Graduate Research and Creative Activities Symposium, California State University, Fresno, May 5, 2011
- Adam Cardenas and Shih-Hsi Liu, “Implementing Domain-Specific Languages using Service-Oriented Architecture” the 31st Central California Research Symposium, Fresno, CA, USA, 2010
- Shih-hsi Liu, Adam Cardenas, Xang Xiong, Marjan Mernik, Barrett R. Bryant, and Jeff Gray, “Can Domain-Specific Languages Be Implemented by Service-Oriented Architecture?” the 25th ACM Symposium On Applied Computing (SAC’10), pages 2491 – 2492, Sierre, Switzerland, March 22-26, 2010
- Ming Li, Shih-Hsi Liu, Yu Cao, and Todd Wilson, “A Technology Solution for Creation of Dynamic Online Instructional Materials,” *The 12th Annual 2009 Regional Conference on Excellence in Teaching & Learning, Teaching for Engaged Learning*, Fresno, CA, USA, March 13, 2009
- Shih-hsi Liu, Ming Li, Yu Cao, and Todd Wilson, “Motivating Logical Thinking and Problem Solving via LEGO Robots,” *The 12th Annual 2009 Regional Conference on Excellence in Teaching & Learning, Teaching for Engaged Learning*, Fresno, CA, USA, March 13, 2009
- Shih-Hsi Liu and Yu Cao, “Software Engineering via Service-Learning: A Case Study,” *the 12th Annual 2009 Regional Conference on Excellence in Teaching & Learning, Teaching for Engaged Learning*, Fresno, CA, USA, March 13, 2009
- Shih-hsi Liu, “A Software Product Line Architecture for Distributed Real-time and Embedded Systems: A Separation of Concerns Approach,” Companion of *the 20th ACM Annual Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA’05)*, pages 224 – 225, San Diego, California, USA, October 16-20, 2005. (*Invited to participate in the semi-final phase of the Student Research Competition*)

- Shih-hsi Liu, Barrett R. Bryant, Jeffrey G. Gray, Rajeev Raje, Andrew Olson, and Mikhail Auguston, “Two-Level Assurance of QoS Requirements for Distributed Real-Time and Embedded System Composition in UniFrame,” *the 20th ACM Symposium on Applied Computing (SAC’05)*, pages 903 – 904, Santa Fe, New Mexico, USA, March 13-17, 2005.
- Beum-Seuk Lee, Xiaoqing Wu, Fei Cao, Shih-hsi Liu, Wei Zhao, Chunmin Yang, Barrett R. Bryant, and Jeffrey G. Gray, “T-Clipse: an Integrated Development Environment for Two-Level Grammar,” Special Event (hosted by IBM): *Eclipse Technology eXchange (OOPSLA’03)*, Anaheim, California, USA, October 27, 2003.

REFEREED ABSTRACTS

- Shih-Hsi Liu, Max J. Tsai, Michelle Salomon, “Artificial Intelligence for Higher Education: Virtual Learning Assistant for a New Personalized Learning Experience,” *Cal State 2018 Tech Conference*, Sacramento, CA, USA, July, 2018
- Ming Li, Shih-Hsi Liu, Shaen Toner, Yu Cao, Todd Wilson, “Can Free Airport WiFi Be Offered?” *30th Annual Central California Research Symposium*, Fresno, CA, USA, April, 2009
- Shih-hsi Liu, “PPCea: A Domain-Specific Language for Evolutionary Algorithms,” *2007 UAB Graduate Student Research Days (GSRD’07)*, Birmingham, AL, USA, March, 2007
- Shih-hsi Liu, “A QoS-Driven Software Product Line Engineering Framework for Component-based Distributed Real-time and Embedded Systems,” *Mid-Southeast Chapter of ACM*, Gatlinburg, TN, USA, November 16-17, 2006
- Shih-hsi Liu, “A QoS-driven Software Product Line Engineering Framework for Distributed Real-time and Embedded Systems,” *2006 UAB Graduate Student Research Days (GSRD’06)*, Birmingham, AL, USA, March, 2006
- Shih-hsi Liu, Fei Cao, Barrett R. Bryant, Jeffrey G. Gray, Rajeev Raje, Andrew Olson and Mikhail Auguston, “A Grammatical Approach to Quality of Service Requirements Analysis for Distributed Real-time and Embedded Systems,” *the 4th Annual Southeastern Software Engineering Conference (SESEC’05)*, March 28-31, 2005, Huntsville, Alabama USA
- Shih-hsi Liu, “A Quality of Service Parameter-centric Approach for Designing Distributed Real-time and Embedded Systems,” *2005 UAB Graduate Student Research Days (GSRD’05)*, Birmingham, AL, USA, March, 2005
- Shih-hsi Liu and Barrett R. Bryant, “Reasoning Design Requirements of Distributed Real-time and Embedded Systems by a Quality of Service Parameter-centric Approach,” *the Journal of the Alabama Academy of Science*, 2005
- Shih-hsi Liu, “Validating Distributed Real-Time and Embedded Systems in UniFrame,” *the 81st Annual Alabama Academy of Science*, Volume 76, No. 2, page 111, Montevallo, Alabama, USA, March 17-20, 2004

PRESENTATIONS AND GUEST LECTURES

- Shih-Hsi Liu, Max J. Tsai, Michelle Salomon, “Artificial Intelligence for Higher Education: Virtual Learning Assistant for a New Personalized Learning Experience,” *Cal State 2018 Tech Conference*, Sacramento, CA, USA, July, 2018
- Shih-hsi Liu, “New features and implementation of C++11 and C++14.” Guest lectures in five introductory and intermediate undergraduate computer science courses, University of Maribor, Slovenia. 2017, Co-funded by the European Social Fund and the Ministry of Education, Science and Sport.
- Shih-hsi Liu, “Interoperable EMR Message Generation: A Model-Driven Software Product Line Approach,” the 24th International Conference on Software Engineering and Knowledge Engineering (SEKE’12), San Francisco, USA
- Shih-hsi Liu, “Software Engineering Research at Fresno State,” *Slovenia Day*, Department of Computer Science, CSU-Fresno
- Shih-hsi Liu, “Exploration and Exploitation in Evolutionary Algorithms: Do We Completely Understand These Processes?” Colloquium of Department of Physics, California State University, Fresno
- Shih-hsi Liu, “Software Engineering Courses at Fresno State,” invited talk/group discussion at *Fresno Software Partnership Monthly Meeting*, September 8th, 2010
- Shih-hsi Liu, Adam Cardenas, Xang Xiong, Marjan Mernik, Barrett R. Bryant, Jeff Gray, “A SOA Approach for Domain-Specific Language Implementation,” IEEE 2010 1st International Workshop on Service-Oriented Computing and Multi-Agent Systems (SOCMAS 2010), held at The IEEE 6th World Congress on Services, pages 535-542, Miami, FL, USA, July 5-10, 2010
- Shih-hsi Liu, “Service-Oriented Architecture, its Applications, and its Relations to Cloud Computing,” invited talk at *Fresno Software Partnership Monthly Meeting*, May 13th, 2010 (w/ Adam Cardenas)
- Shih-hsi Liu, “Orientation of Computer Science Department at Fresno State,” outreach talk at *Fresno State University Preview Day*, March 28th, 2009
- Shih-hsi Liu, Yu Cao, Ming Li, Pranay Kilaru, Thell Smith, Shaen Toner, “A Semantics- and Data-Driven SOA for Biomedical Multimedia Systems,” the IEEE International Symposium on Multimedia, pp. 533-538, 2008
- Shih-hsi Liu and Shaen Toner, “Comp-X Summer Camp and Software Engineering Research at Fresno State,” Computer Science Sessions hosted at *Fresno State Science Day*, November 21st, 2008
- Shih-hsi Liu, “Comp-X Summer Camp and Software Engineering Research at Fresno State,” invited talk at *Fresno State Honor Day*, September 20th, 2008
- Shih-hsi Liu, “Software Engineering Courses and Research Projects at Fresno State,” invited talk at *CSCI 200 Introduction to Research in Computer Science*, September 11th, 2008
- Shih-hsi Liu, “A QoS-driven Software Product Line Engineering Framework for Component-based Distributed Real-time and Embedded Systems,” invited talk at *Indiana University Purdue University Indianapolis*, March 28th, 2007
- Shih-hsi Liu, “A Clustering Entropy-Driven Approach for Exploring and Exploiting Noisy Functions,” *the 22nd ACM Symposium on Applied Computing (SAC’07)*, Seoul, Korea, March 11-15, 2007

- Shih-his Liu, “PPCea: A Domain-Specific Language for Evolutionary Algorithms,” *2007 UAB Graduate Student Research Days (GSRD’07)*, Birmingham, AL, USA, March, 2007
- Shih-hsi Liu, “A QoS-driven Software Product Line Engineering Framework for Component-based Distributed Real-time and Embedded Systems,” invited talk at *California State University, Fresno*, February 27th, 2007
- Shih-hsi Liu, “QoSPL: A QoS-Driven Software Product Line Engineering Framework for Distributed Real-time and Embedded Systems,” *the First International Workshop on Evaluation and Evolution of Component Composition*, held at *SEKE’06*, San Francisco, California, USA, July 5-7, 2006
- Shih-hsi Liu, “A QoS-driven Software Product Line Engineering Framework for Distributed Real-time and Embedded Systems,” *2006 UAB Graduate Student Research Days (GSRD’06)*, Birmingham, AL, USA, March, 2006
- Shih-hsi Liu, “A Software Product Line Architecture for Distributed Real-time and Embedded Systems: A Separation of Concerns Approach,” Student Research Competition, *the 20th ACM Annual Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA’05)*, San Diego, California, USA, October 16-20, 2005
- Shih-hsi Liu, “A Software Product Line Architecture for Distributed Real-time and Embedded Systems: A Separation of Concerns Approach,” Poster Session, *the 20th ACM Annual Conference on Object-Oriented Programming, Systems, Languages and Applications (OOPSLA’05)*, San Diego, California, USA, October 16-20, 2005
- Shih-hsi Liu, “Quality of Service-Driven Requirements Analyses for Component Composition: A Two-Level Grammar++ Approach,” *the 17th International Conference on Software Engineering and Knowledge Engineering (SEKE’05)*, pages 731-734, Taipei, Taiwan, July 14-16, 2005
- Shih-hsi Liu, “Introducing High School Students to Java through Lego Robot Experiments,” invited orientation talk at the Department of Computer and Information Sciences, UAB, June, 2005
- Shih-hsi Liu, “QoS-UniFrame: A Petri Net-based Modeling Approach to Assure QoS Requirements of Distributed Real-time and Embedded Systems,” *the 12th Annual IEEE International Conference and Workshop on the Engineering of Computer Based Systems (ECBS’05)*, Greenbelt, Maryland, USA, April 4-7, 2005
- Shih-hsi Liu, “A Grammatical Approach to Quality of Service Requirements Analysis for Distributed Real-time and Embedded Systems,” *the 4th Annual Southeastern Software Engineering Conference (SESEC’05)*, Huntsville, Alabama USA, March 28 -31, 2005
- Shih-hsi Liu, “Two-Level Assurance of QoS Requirements for Distributed Real-Time and Embedded System Composition in UniFrame,” Poster Session, *the 20th ACM Symposium on Applied Computing (SAC’05)*, Santa Fe, New Mexico, USA, March 13-17, 2005
- Shih-hsi Liu, “A Quality of Service Parameter-centric Approach for Designing Distributed Real-time and Embedded Systems,” *2005 UAB Graduate Student Research Days (GSRD’05)*, Birmingham, AL, USA, March, 2005

- Shih-hsi Liu, “Reasoning Design Requirements of Distributed Real-time and Embedded Systems by a Quality of Service Parameter-centric Approach,” the *Journal of the Alabama Academy of Science*, 2005
- Shih-hsi Liu, “Validation of Distributed Real-Time and Embedded System Composition in UniFrame,” *the 42nd Annual ACM Southeast Conference (ACMSE’04)*, Huntsville, Alabama, USA, April 2-3, 2004
- Shih-hsi Liu, “Validating Distributed Real-Time and Embedded Systems in UniFrame,” *the 81st Annual Alabama Academy of Science*, Montevallo, Alabama, USA, March 17-20, 2004

PROFESSIONAL ACTIVITIES

EDITORSHIP

- Editorial Board, *Applied Soft Computing*, Elsevier
- Editorial Board, *International Journal on Advances in Intelligent Systems*
- Editorial Advisory Board: *Overcoming Challenges in Software Engineering Education: Delivering Non-Technical Knowledge and Skills*
- Guest Co-Editor (with Junichi Suzuki, Faizan Javed, and Li-Wei Chen), Special Issue on Computational Intelligence in Data Analysis and Applications, *Applied Computational Intelligence and Soft Computing*, Hindawi, 2016.
- Guest Co-Editor (with Junichi Suzuki, Paul Leger, Hiroaki Fukuda, and Marjan Mernik) A Special Issue on Emerging Synergies of Artificial Intelligence and Software Engineering, *International Journal of Software Engineering and Knowledge Engineering*, 2015.
- Editorial Board, *International Journal of Artificial Intelligence and Application*, 2013
- Guest Co-Editor (with Marjan Mernik, and Junichi Suzuki), A Special Issue on Emerging Synergies of Artificial Intelligence and Software Engineering, *International Journal of Software Engineering and Knowledge Engineering*, 2012.

CONFERENCE/WORKSHOP (VICE) CHAIRS

- The 13th International Conference on Parallel Problem Solving From Nature, Ljubljana, Slovenia, September, 2014 (Tutorials Co-chair)
- The 7th International ICST Conference on Body Area Networks, Oslo, Norway September 2012 (Publicity Chair)
- 2012 Workshop on Realizing Artificial Intelligence Synergies in Software Engineering, co-hosted with International Conference of Software Engineering (Publicity Chair)
- The 5th IEEE International Enterprise Computing Conference, Helsinki, Finland, August 2011 (Publicity Chair)
- The 5th International ICST Conferences on Bio-Inspired Models of Network Information, and Computing Systems, Boston, USA, December 2010 (Vice PC Chair)

- Special Track on Artificial Intelligence and Software Engineering (AISE) hosted at The 5th International ICST Conferences on Bio-Inspired Models of Network Information, and Computing Systems, Boston, USA, December 2010 (Co-Chair)
- The 25th ACM Symposium on Applied Computing (SAC’10), Track on Human Computer Interaction, Sierre, Switzerland, March, 2010 (Co-Chair)
- The 24th ACM Symposium on Applied Computing (SAC’09), Track on Human Computer Interaction, Hawaii, USA, March, 2009 (Co-Chair)

PROGRAM/TECHNICAL COMMITTEES

- The International Conference on Software Engineering and Knowledge Engineering (SEKE), 2009 – present.
- The International Conference on Bioinspired Optimization Methods and their Applications (BIOMA), 2012 – present.
- The Workshop on Model Driven Approaches in System Development (MDASD), 2012 - present.
- International Conference on Evolutionary Computation Theory and Applications, 2014-2016.
- Special Track on Artificial Intelligence and Software Engineering, hosted at the 9th International Conference on Bio-inspired Information and Communications Technologies, New York City, USA, December 2015.
- The 5th Workshop on Advances in Programming Languages, hosted at Federated Conference on Computer Science and Information Systems, Lodz, Poland, September 2015.
- International Conference on the Quality of Information and Communications Technology, Thematic Track on Quality in Model Driven Engineering, Guimaraes, Portugal (September 2014).
- The 4th Workshop on Advances in Programming Languages (WAPL’13), *held at Federated Conference on Computer Science and Information Systems*, Kraków, Poland, September 2013.
- The 28th ACM Symposium on Applied Computing (SAC’13), Track on Programming Languages, Coimbra, Portugal, March 2013
- The 5th International Conference on Agents and Artificial Intelligence, Spain, Feb. 2013.
- The 12th Workshop on Domain-Specific Modeling (DSM’12), Tucson, Arizona, USA, October 2012.
- The 4th International Conferences on Advanced Service Computing, Nice, France, July 2012.
- The 4th International Conference on Agents and Artificial Intelligence, Portugal, Feb. 2012.
- The 27th ACM Symposium on Applied Computing (SAC’12), Track on Programming Languages, Riva del Garda (Trento), Italy, March 2012
- The 11th Workshop on Domain-Specific Modeling (DSM’11), Portland, Oregon, USA, October 2011.
- The 3rd International Conferences on Advanced Service Computing, Rome, Italy September 2011.

- The *Federated Conference on Computer Science and Information Systems*, Szczecin, Poland, September 2011.
- The 3rd Workshop on Advances in Programming Languages (WAPL'11), *held at Federated Conference on Computer Science and Information Systems*, Szczecin, Poland, September 2011.
- The 5th International Conferences on Multimedia and Ubiquitous Engineering (MUE 2011), Crete, Greece, June 2011.
- The 3rd Workshop on Model Based Software and Data Integration (MBSDI), hosted at the 7th European Conference on Modeling Foundations and Applications (ECMFA'11), June 2011.
- 2011 IEEE Congress on Evolutionary Computation (CEC'11), New Orleans, USA, June 2011
- The 26th ACM Symposium on Applied Computing (SAC'11), Track on Embedded Systems: Applications, Solutions, and Techniques, Taichung, Taiwan, March 2011
- The 26th ACM Symposium on Applied Computing (SAC'11), Track on Service Oriented Architectures and Programming, Taichung, Taiwan March, 2011.
- The 2nd International Conferences on Advanced Service Computing, Lisbon, Portugal, November 2010.
- The 10th Workshop on Domain-Specific Modeling (DSM'10), Reno/Tahoe, Nevada, USA, October 2010.
- The 4th International Conferences on Multimedia and Ubiquitous Engineering (MUE 2010), Cebu, Philippines, August 2010.
- The 2010 IEEE Congress on Evolutionary Computing (CEC'10), Barcelona, Spain, July 2010.
- International Workshop on Software Test Automation, Practice, and Standardization, hosted at The 22nd International Conference on Software Engineering and Knowledge Engineering (SEKE'10), San Francisco, CA, USA, July 2010.
- International Workshop on Service-Oriented Computing and Engineering, hosted at The 22nd International Conference on Software Engineering and Knowledge Engineering (SEKE'10), San Francisco, CA, USA, July 2010.
- The 8th ACIS International Conference on Software Engineering Research, Management and Applications (SERA'10), Montreal, Canada, May 2010.
- The 25th ACM Symposium on Applied Computing (SAC'10), Track on Evolutionary Computation, Sierre, Switzerland, March, 2010
- The 25th ACM Symposium on Applied Computing (SAC'10), Track on Embedded Systems: Applications, Solutions, and Techniques, Sierre, Switzerland, March, 2010
- *The 2nd Workshop on Data Semantics for Multimedia Systems and Applications (DSMSA'09)*, *held at the IEEE International Symposium on Multimedia 2009*, San Diego, CA, USA, December 2009
- 7th ACIS International Conference on Software Engineering Research, Management and Applications, Haikou, China, December 2009

- The 1st International Conferences on Advanced Service Computing, Athens, Greece, November 2009
- *The 9th OOPSLA Workshop on Domain-Specific Modeling (DSM'09)*, Orlando, FL, USA, October 2009
- *The 2nd Workshop on Advances in Programming Languages (WAPL'09)*, held at *The 2009 International Multiconference on Computer Science and Information Technology*, Mrągowo, Poland, October 2009
- *The 2nd International Workshop on Semantic Computing and Multimedia Systems*, a Workshop held at ICSC'09, Berkeley, CA, September, 2009
- *The 12th International Conference on Network Based Information Systems (NBIS'09)*, Indianapolis, IN, USA, August, 2009
- *The 2009 IEEE Congress on Evolutionary Computing (CEC'09), Special Session on Parameter Setting in Evolutionary Algorithms*, Trondheim, Norway, May 2009
- *The 1st International Workshop on Pervasive Computing Systems and Infrastructures (PCSI)*, held at *The 5th International Conference on Testbeds and Research Infrastructures for the Development of Networks and Communities*, Washington DC, USA, April 2009
- *The 24th ACM Symposium on Applied Computing (SAC'09), Applications of Evolutionary Computation Track*, Hawaii, USA, Mach 2009
- *The 24th ACM Symposium on Applied Computing (SAC'09), Applications of Embedded Systems Track*, Hawaii, USA, Mach 2009
- *The 1st Workshop on Data Semantics for Multimedia Systems and Applications (DSMSA'08)*, held at *the IEEE International Symposium on Multimedia 2008*, Berkeley, CA, USA, December 2008
- *The 8th OOPSLA Workshop on Domain-Specific Modeling (DSM'08)*, Nashville, TN, USA, October 2008
- *The 1st International Workshop on Model-Driven Development on Autonomic Systems (MDDAS'08)* held at *the 32nd IEEE International Computer Software and Application Conference*, Turku, Finland, July 2008
- *The 20th International Conference on Software Engineering and Knowledge Engineering (SEKE'08), Special Track on Model-Based Software Engineering*, San Francisco, CA, USA, July 2008
- *2008 IEEE Congress on Evolutionary Computation (CEC'08) held at 2008 IEEE World Congress on Computational Intelligence (WCCI'08)*, Hong Kong, China, June 2008
- *2008 IEEE International Conference on Networking, Sensing and Control (ICNSC'08), Special Session on the Intelligent Multimedia Information System*, Hainan, China April 2008
- *The 23rd ACM Symposium on Applied Computing (SAC'08), Applications of Evolutionary Computation Track*, Fortaleza, Ceara, Brazil, Mach 2008
- *Workshop on Automating Service Quality (WRASQ)*, a Workshop held at ASE'07 (Automated Software Engineering), Atlanta, GA, November, 2007
- *The 7th OOPSLA Workshop on Domain-Specific Modeling (DSM'07)*, Montréal, Canada, October, 2007

- The 1st International Workshop on Semantic Computing and Multimedia Systems, a Workshop held at ICSC’07, San Diego, CA, September, 2007

JOURNAL/GRANT/BOOK REVIEWERS (in alphabetic order)

- Acta Electrotechnica et Informatica Journal
- Applied Soft Computing, Elsevier
- Computer Methods and Programs in Biomedicine
- Data Abstraction & Problem Solving with C++, by Walls & Mirros, Addison Wesley (5th edition)
- Engineering Science and Technology: an International Journal (JESTECH)
- Georgian National Science Foundation: State Science Grant Competition
- Handbook on Dynamic System Modeling, CRC Press
- IEEE Multimedia
- IEEE Software: Special issue on Domain-Specific Languages & Modeling
- IEEE Systems Journal
- IEEE Transaction on Systems, Men and Cybernetics – Part B
- Information Processing Letters, 2012
- International Journal of Computer Applications in Technology
- Journal of Computing Science and Engineering
- Journal of Intelligent Manufacturing, Springer
- Journal of Zhejiang University Science C
- Knowledge-Based Systems, Elsevier
- Multimedia Tools and Applications, Springer
- Non-Functional Requirements and Properties in Service Oriented Architecture, IGI Global, 2010
- Overcoming Challenges in Software Engineering Education: Delivering Non-Technical Knowledge and Skills, 2013
- Scientia Iranica
- Shota Rustaveli National Science Foundation, Georgia Republic, 2011
- Soft Computing, Springer
- Software Quality Journal, 2012
- Software and Systems Modeling
- Special Issue of Informatica on Bioinspired Optimization
- Special Issue of International Journal on Autonomous and Adaptive Communications Systems on Self-* Systems, 2011

GRANT ACTIVITIE

- “Virtual Learning Assistant” Associate Provost Office, *California State University, Fresno*, \$10,000 (Role: PI)
- “Redesign CSci 40 and CSci 41 sequence,” awarded by Academic Technology & Innovation, *California State University, Fresno*, \$5,000 (Role: PI)
- “Undergraduate Education Program,” awarded by Keck Foundation, \$360,000 (Role: Key personnel)

- “Center for Three-Dimensional Imaging of the Craniofacialdental Complex,” awarded by Indiana University, \$300,000 (Role: Key personnel)
- *Graduate Assistantship Awards (Spring and Fall, 2010)*, Division of Graduate Studies, California State University, Fresno. Total Amount: \$10,000
- Undergraduate Research Awards (Spring 2010 – Fall 2011), California State University, Fresno. Total Amount: TBA
- Seminar/Lecture Series/Special Instructional Program (2007-2008), College of Science and Mathematics, California State University, Fresno.
- Research, Scholarship, and Creative Activity Award (2008, 2011, 2014), College of Science and Mathematics, California State University, Fresno. Amount: TBA
- Faculty Sponsored Student Research Awards (2007-2011), College of Science and Mathematics, California State University, Fresno. Total Amount: TBA
- Service-Learning Curriculum Development Grants (March, 2008), California State University, Fresno. Title: Software Engineering via Service-Learning (with Dr. Yu Cao). Amount: \$6000.00
- Grants for Enhancing Learning and Teaching (March 2008), California State University, Fresno. Title: Active Learning with Collaborative Software: Computer-Supported Collaborative Learning (CSCL) Instructional Design (with Dr. Yu Cao). Amount: \$5000.00
- CSU Awards for Research, Scholarship, and Creative Activity (March 2008), California State University, Fresno. Title: A Domain-Specific Language for Parameter Settings in Evolutionary Algorithms. Amount: \$5,000 (for 3 WTU)
- Graduate Program Enhancement Award (March 2008), California State University, Fresno (with Drs. Todd Wilson, Yu Cao, Ming Li and Shigeko Seki).
- Instructional Equipment Program (Nov. 2007), College of Science and Mathematics, California State University, Fresno. Title: The Annual Bulldogs Robotics Summer Camp (with Drs. Yu Cao and Ming Li). Amount: \$20,220.00
- Service-Learning Seminar Mini-Grant (Sep. 2007), Civic Engagement and Service-Learning, California State University, Fresno. Title: Observing and Realizing Software Needs via Service-Learning. Amount: \$400.00
- ACM Student Research Competition. Received a student research competition award from ACM to participate in the Student Research Competition in the 20th ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications in San Diego, California, USA, October 2005. Amount: \$500.00
- Alabama Academy of Science (May 2004). Title: Formal Specification Methods for Distributed Real-Time and Embedded Systems in UniFrame. Amount: \$150.00

TRAVEL AWARDS

- SoftHum Workshop Travel Grant Supported by NSF, June 11-12, 2009
- Professional Development Award (2007-2012, 2014, 2015), College of Science and Mathematics, California State University, Fresno. Total Amount: TBA
- Travel grants from CIS department, UAB to present papers in SAC'07, SEKE'06, and SEKE'05. Total Amount: \$1300.00
- Travel grants from GSA (Graduate Students Association), UAB to present papers in SAC'07, SEKE'06, ECBS'05, and ACMSE'04. Total Amount: \$600.00
- Travel grant from ACM SIGAPP STAP to present a paper in the 22nd ACM Symposium on Applied Computing (SAC'07) in Seoul, Korea, March 11-15, 2007. Amount: \$500.00
- Travel grant from ACM to participate in the Student Research Competition in the 20th ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications in San Diego, California, USA, October 2005. Amount: \$500.00
- Travel grant from ACM as a student volunteer in the 20th ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications in San Diego, California, USA, October 2005. Amount: \$150.00
- Travel grant from IEEE to present a paper in the 12th Annual IEEE International Conference and Workshop on the Engineering of Computer Based Systems in Greenbelt, Maryland, USA, April 2005. Amount: \$100.00
- Travel grant from DARPA to attend the 8th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS'03) in Washington DC, USA, May 2003

HONORS

- Selected as one of the best papers at BIOMA'12 (May 2012)
- Selected as one of the best papers at BIOMA'10 (May 2010)
- Selected as one of the best workshop papers at DSMSA'08 (Dec 2008)
- The 3rd Place in the Doctoral Paper Division at the Mid-Southeast Chapter of ACM (Nov 2006)
- Selected as one of the best conference papers at BIOMA'06 (Oct 2006)
- Participated in the semi-final phase of the Student Research Competition in OOPSLA'05 (Oct 2005)
- Full Tuition Assistantship, UAB (2003- 2007)

MEMBERSHIPS

- Alabama Academy of Science, 2004-2007
- Association for Computing Machinery (ACM), 2004-present
- Association for Computing Machinery Special Interest Group on Applied Computing (SIGAPP), 2005-present
- Association for Computing Machinery Special Interest Group on Software Engineering (SIGSOFT), 2005-present
- Institute of Electrical and Electronics Engineering, 2004-present

- Computer Science Teachers Association, 2008-present

TEACHING ACTIVITIES

- **CALIFORNIA STATE UNIVERSITY, FRESNO (2007 – Present)**

Instructor

- Csci 40 Introduction to Programming and Problem Solving (F08)
 - Csci 41 Introduction to Data Structures (Since F09 except S15)
 - Csci 150 Introduction to Software Engineering (Since F07)
 - Csci 152(S) Software Engineering (Since S08 except S15)
 - Csci 191T Special Topics in Enterprise Software Development (F08)
 - Csci 250 Advanced Software Engineering (S08, S09, F10, S12, F16, F17)
 - Csci 252 Software Development Environments (F07, F09, F10, S11)
- (Student Ratings of Overall Teaching Effectiveness 5.0 - Perfect Score in F07)***

Lab Instructor

- Csci 40 Introduction to Programming and Problem Solving
- Csci 41 Introduction to Data Structures
- Csci 150 Introduction to Software Engineering
- Csci 152(S) Software Engineering

Project Advisors (since 2013)

Senior Projects

- Thomas Ariston, Connect to A Sensor Network through a RESTful API, December 2013
- Chris Mora, A Business Resources Management System for Telecommunication Companies, December 2013
- Lawton Nichols, Bulldog Pantry, December 2013
- Matthew Johnston, HTTP File Explorer, May 2014
- Michael Martino, Dungeons & Dragons 3.5 Map Generator, May 2014
- Antonio Perez, Coderzhub, An online Code Hub for Github Users, December 2014
- David Tataryan, Act It: An Android Game for Acts Guessing, December 2014
- Andres Felipe Vargas, A Web-based Scheduling System for Restaurants, December 2016
- Colin Mart, Rogue Claw: A Role-Playing Game, December 2016
- Carlos Daccarett, Smart Study Pal, December 2017
- Brandon Rowe, MOEA/D algorithm for an Automatic Test Suite: EvoSuite, May 2018
- Michelle Salomon, Virtual Learning Assistant Chatbot, May 2018

- Kishan Shah, Conversational AI Using Natural Language Processing, May 2018

Master Projects

- Krish Arunachalam Thayappan, Knowledge Discovery Through Sentiment Analysis on Big Data, May 2014
- Antony Ross, Running Gait Recognition and Classification of Athletes in Video with a Moving Camera, May 2014
- Karan Khara, A Computer Science Graduate Admission Recommendation Application for Indian Students, December 2015
- Preeti Aggarwal, Building an Effective Recommendation System by Analyzing and Evaluating Different Algorithms in the Apartment Domain, May 2016
- Nidhi Arora, Age Classification Using Feature Selection, May 2016
- Harleen Gulati, ASAP: Automated System for Accurate Parking, May 2016
- Mahima, Notes Share, May 2016
- Bharti Taank, A Movie Recommendation System Using Sentimental Analysis, August 2016
- Akanksha Jaiswal, Implementation of NSGA-III Algorithm for Java-based Automated Test Generation Tool 'EvoSuite' for Eclipse IDE

- **UNIVERSITY OF ALABAMA AT BIRMINGHAM (2003 – 2007)**

Lecturer

- CS 101 Computing Fundamentals (1 semester)
- CS 304 Object-Oriented Programming in C++ (1 semester)
- CS 420/520 Software Engineering (1 semester, some lectures in Fall'06)

Lab Instructor

- CS 101 Computing Fundamentals Lab (6 semesters)
- CS 102 Web-Based Technologies (1 semester)
- CS 201 Introduction to Object Oriented Programming Lab (2 semesters)
- CS 302 Foundations of Computer Science (1 semester)
- CS 330 Computer Organization and Assembly Language (1 semester) (*Student Ratings of Instruction Score 4.0 - Perfect Score*)

Teaching Assistant

- CS 201 Introduction to Object Oriented Programming (1 semester)
- CS 304 Object-Oriented Programming in C++ (1 semester)
- CS 405 Programming Languages (2 semesters)
- CS 420/520 Software Engineering (2 semesters)
- CS 441/541 Parallel Computing (1 semester)
- CS 491/591 Special Topics in Web Services (1 semester)
- CS 602/702 Compiler Design I (1 semester)

SERVICE ACTIVITIES

California State University, Fresno

- Graduate Coordinator (2011 – present). Department of Computer Science
- Curriculum Committee (2010 – present). College of Science and Mathematics, CSUF
- Mobile Strategy Committee (2012). California State University, Fresno
- President’s Task Force on Internationalization (2012). California State University, Fresno
- Academic Senator (2009 – 2011, 2015). California State University, Fresno
- Mentor (2009-2011), CSUF Student Chapter of the ACM
- Research Committee (2008 – 2010). College of Science and Mathematics, CSUF
- Vice President and Web Administrator (2006). UAB Taiwanese Scholar and Student Association
- Ambassador (2004-2005), UAB Student Chapter of the ACM
- Class Representative (1999), NCTU CIS Class 2000
- Crew of Physical Department (1998-1999), NCTU CIS Student Association

OUTREACH ACTIVITIES

- **CO-DIRECTORS or ADVISORY BOARD**
 - The Computer Exploration Summer Camp (<http://computercamp.csufresno.edu>), June 2008, July 2009, July 2011, July 2012.
 - Central California GiveCamp (<http://centralcalgivecamp.blogspot.com/p/home.html>), Spring 2012-2013.
 - Central California Software Partnership Advisory Board, 2012-present.
- **COORDINATORS and DEPT. REPRESENTATIVES**
 - Service-Learning Software Projects (selected list below), 2008 – 2014.
 - Big Brothers Big Sisters
 - Center for Multicultural Cooperation
 - Central California Legal Services
 - Central Valley First LEGO League
 - Clovis Unified School District
 - HandsOn Central California
 - Fresno Barrios Unidos
 - Fresno Metro Ministry
 - iCAN Junior Triathlon Club
 - Reading and Beyond
 - Tree Fresno
- **VOLUNTEERS**

- The 20th ACM SIGPLAN Conference on Object-Oriented Programming, Systems, Languages, and Applications, San Diego, California, USA. Tutorial 18: Software Factories (<http://www.oopsla.org/2005/ShowEvent.do?id=158>). Oct. 2005.
- Orientation for Tougaloo College, Jackson, Mississippi, USA. Title: Introducing High School Students to Java through Lego Robot Experiments. June 2005 (Speaker)
- Annual Alabama High School Programming Contest (http://www.cis.uab.edu/news/details.php?event_id=61). May 2005, May 2007 (Grader)
- The Birmingham Parent's Fair. Title: Introduction to robotics and graphics camps (http://www.cis.uab.edu/news/details.php?event_id=54). March 2005 (CIS department representative)
- Adaptive Robot Control in Java in cooperation with the Heritage Center (<http://www.cis.uab.edu/heritage/>). Summer 2004, Summer 2005, (Student mentor)

MISC.

- Publications, research information and project demos are available at <http://zimmer.csufresno.edu/~shliu>