Jonathan I. Maletic

Professor

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Education

Ph.D.	Computer Science	Wayne State University	1995
M.S.	Computer Science	Wayne State University	1989
B.S.	Computer Science, Mathematics Minor	The University of Michigan-Flint	1985

Academic Positions

- *Professor*. Department of Computer Science, Kent State University, Kent, Ohio. 8/10 - present.
- *Interim Chair*. Department of Computer Science, Kent State University, Kent, Ohio. 7/1/10 - 11/15/10.
- *Associate Professor*. Department of Computer Science, Kent State University, Kent, Ohio. 8/04 - 8/10.
- *Assistant Professor*. Department of Computer Science, Kent State University, Kent, Ohio. 7/01 - 8/04.
- *Assistant Professor*. Division of Computer Science, Department of Mathematical Sciences, The University of Memphis, Memphis, Tennessee. 9/97 - 5/02.
- *Lecturer*. Department of Computer Science, Wayne State University, Detroit, Michigan. Non-tenure track teaching position. 9/95 - 8/97.
- *NASA Graduate Student Researchers Program Fellowship*. Department of Computer Science, Wayne State University, Detroit, Michigan. 93/94 renewed for 94/95.
- *Graduate Teaching Assistantship*. Department of Computer Science, Wayne State University, Detroit, Michigan. 92/93, 89/90, and 88/89.
- *Graduate Research Assistantship*. Department of Computer Science, Wayne State University, Detroit, Michigan. Funded by Ford Motor Company, Institute for Manufacturing Research, and IBM. 90/91 and 87/88.
- *Adjunct Lecturer*. Computer Science Department, The University of Michigan-Flint, Flint, Michigan. 86/87.

Industry Experience

- *Principle*. srcML LLC. Kent Ohio. Providing software and consulting solutions for the exploration, analysis, and manipulation of multi-language large-scale software. 2014 - present. Clients:
  - GraphSQL, Kent Ohio, 7/2016 to 12/2016.
  - Goanna Software, Eveleigh, Australia, 12/2014.
- *Independent Software Consultant*. Arizona Department of Transportation (ADOT), Phoenix, Arizona. Litigation Technical Support. Advised issues of software verification and validation, process models, and software system performance simulation. 5/97 - 8/97.
- *Software Consultant*. Computer Software Inc. consulting for Ford Motor Company, Dearborn, Michigan. Development of Client/Server GUI application using C, TCP/IP, Visual Basic, and Oracle, Development of web application using cgi-bin and Pearl. 2/95 - 11/95.
- *Associate Research Scientist*. Systems and Research Center, Honeywell Inc., Minneapolis, Minnesota. Development of a production quality temporal reasoning system, TMM using LISP/CLOS, UNIX. Assisted in proposals submitted to DARPA, DoD, and FAA. 9/91 - 8/92.
- *Programmer*. Eagle Data Products. Holly, Michigan. Installation, and modification of an Inventory/Accounting package. Developed communications program between PC and central phone system processor. 4/86 - 9/86.

Professional Affiliations

- Association for Computing Machinery (ACM), Senior Member (2006) since 1984
- Institute of Electrical and Electronics Engineers - Computer Society (IEEE-CS) since 1985

Research Statement

Interests: Software engineering, evolution, & maintenance; software traceability; program comprehension & analysis; reverse engineering; source code exploration, manipulation, and transformation; software visualization

The research program focuses on the construction of methods, tools, and environments to assist in the evolution of large-scale software systems. Current investigations include:

- *Source Code Exploration, Analysis, and Manipulation.* XML is used to augment source code with syntactic information from the parse tree as a means to add explicit structure to program source code [97, 109]. This underlying representation, srcML (Source Code Markup Language), supports lightweight fact extraction, source code transformation [95], and source code difference analysis. The *srcml* translator works for C/C++ and Java. It is very robust and efficient, running faster than compilers on the same input [38, 39, 42, 48, 49, 51]. The translator is used by a large number of researchers and a commercial version is in use to support software porting [94, 95], the analysis of programs for parallelizability [103], slicing [102], and defect prediction [143]. srcML also forms the basis for an efficient syntactic differencing method [49, 65, 84, 144], source code transformation approaches [128], source code exploration [125].
- *Program Comprehension.* Software infrastructure [116, 119, 124, 130, 139, 142, 145, 146, 147] is being developed to support eye tracking in software development environments to understand how programmers comprehend software in a realistic setting. Eye tracking equipment is being used to assess the comprehensibility of design documents (UML class diagrams) in a non-obtrusive manner [74, 78, 91, 93, 100, 104]. This work augments the work on software visualization and supports a means to measure the quality of UML class diagram layout techniques [54, 83, 85, 88]. Also, focus+context methods for visualizing very large UML class diagrams using onion graph notations have been investigated [55, 72]. A number of efforts to develop visualization tools to support understanding large software systems are being conducted [37, 99, 106]. Extending the Seesoft metaphor to 3D and investigating how this can be used to assist developers is being explored [32, 34, 41, 44, 99].
- *Text Analysis in Software Engineering*. The research focuses on investigating the combined use of textual and structural information of programs to support the comprehension tasks involved in the maintenance and reengineering of software systems. The textual information is the identifiers and comments within the source code. Structural information refers to issues such as the actual syntactic structure of the program along with the control and data flow that it represents. Automated support for method summarization and re-documentation of source code [126, 129, 133, 135, 136, 137, 141] leverage natural language processing and srcML. Advanced information retrieval (IR) methods, such as latent semantic indexing (LSI), are used to define a semantic similarity measure between software components [27, 33, 36, 40, 50, 56, 110].
- *Reverse Engineering Design Information*. An automated approach to reverse engineer UML class diagrams from C++ has been developed [57, 67, 76] which accurately identifies association, dependency, and generalization relationships along with the multiplicity on relationships. Method and Class stereotypes are automatically reverse engineered [64, 86, 94, 98] and the source code is re-documented to support program understanding and recovery of class stereotype information. An automated approach to the identification of C++0x concepts in function and class templates is being investigated. Concepts are part of a new language feature appearing in the next standard for C++ (i.e., C++0x). Concept identification is the enumeration of constraints on the sets of types over which templates can be instantiated [76, 81, 87, 90, 107]. The approach analyzes template source code and computes a set of viable concept instances describing the implied data abstraction of the template parameters.
- *Software Traceability.* A XML based hypertext model is being developed to support complex link structure, versioning of individual links, and a traceability query language [46, 58]. Fine-grained versioning of individual links is supported by external link-bases [69]. A traceability query language (TQL) is being developed on top of XPath to support sophisticated querying about such things as requirements traceability, safety critical issues, and impact analysis [82, 96]. This work aims to support long-term evolution of large software systems. Additional work focuses on the automatic identification of traceability links [40, 73, 75, 84, 95]. And the development of the TraceLab infrastructure [96, 101, 105].
- *Mining Software Repositories.* Data mining techniques are being utilized to analyze multiple versions of a system's history to uncover latent trends and evolutionary couplings. The techniques have been applied to the problems of defect identification, software localization, and traceability link recovery [52, 59, 62, 68, 70, 71, 73, 75, 77, 79, 80, 89, 106, 108]. Additionally the first in depth survey of the field was conducted in 2007 [66].

Funding and Support

Summary of Annual External Funding (awards to KSU)

Year	Research		Education/Scholarships	
	Approx. Amount	Award(s)	Approx. Amount	Award(s)
2026	$75K	NSF-srcDiff		
2025	$150K	NSF-srcDiff		
2024	$185K	NSF-srcML, NSF-srcDiff		
2023	$175K	NSF-srcML, NSF-srcDiff		
2022	$100K	NSF-iTrace, NSF-srcML		
2021	$100K	NSF-iTrace, NSF-srcML		
2020	$75K	NSF-iTrace, NSF-srcML		
2019	$100K	NSF-iTrace		
2018	$140K	NSF-srcML, NSF-iTrace	$20K	NSF-SSTEM
2017	$175K	NSF-srcML, NSF-iTrace	$110K	NSF-SSTEM
2016	$125K	NSF-srcML	$120K	NSF-SSTEM
2015	$155K	NSF-srcML	$120K	NSF-SSTEM
2014	$150K	NSF-srcML	$120K	NSF-SSTEM
2013	$160K	NSF-MRI, NSF-srcML & ABB	$110K	NSF-SSTEM
2012	$190K	NSF-MRI & ABB	$10K	COF
2011	$238K	NSF-CPA, NSF-MRI & ABB	$110K	NSF-SSTEM, COF
2010	$270K	NSF-CPA, NSF-MRI & ABB	$110K	NSF-SSTEM, COF
2009	$115K	NSF-CPA & ABB	$110K	NSF-SSTEM, COF
2008	$70K	NSF-CPA & ABB	$100K	NSF-SSTEM

Proposals Submitted & Pending

Title	Investigator(s)	Agency/Source	Amount	Period
Collaborative Research: CIRC: Enhancement: iTrace for Realtime editing of code **Submitted Sept. 2023**	B. Sharif Maletic, J.I.	National Science Foundation CCRI	$750K (total)	3 years

Funding Awards: Active

Title	Investigator(s)	Agency/Source	Amount	Period
Collaborative Research: CCRI: New: Syntactic Differencing Infrastructure for Software Evolution Research www.srcDiff.org	Maletic, J.I. Decker, M. (BGSU)	National Science Foundation CCRI CNS 22-32594 $750,000 Project Total	$447,250	7/1/2023 - 6/30/2026
Research Experience for Undergraduates: Supplement to CNS 20-16465	J. Maletic (PI)	National Science Foundation REU CNS 20-16465	$10,000	4/19/2022- 6/30/24
Research Experience for Undergraduates: Supplement to CNS 20-16465	J. Maletic (PI)	National Science Foundation REU CNS 20-16465	$10,000	4/19/2021- 6/30/24
CCRI: ENS: Collaborative Research: Expanding Language Support for the srcML Infrastructure www.srcML.org	J. Maletic (PI), M. Collard (U Akron)	National Science Foundation CCRI CNS 20-16465/16452 $652,485 Project Total	$397,849	7/15/2020- 6/30/25
Total			**$865,099**	

Funding Awards: Completed – External Federal Agency

Title	Investigator(s)	Agency/Source	Amount	Period
Research Experience for Undergraduates: Supplement to CNS 17-30181	J. Maletic (PI)	National Science Foundation REU CNS 17-30181	$10,000	6/1/2020-5/31/22
Research Experience for Undergraduates: Supplement to CNS 17-30181	J. Maletic (PI)	National Science Foundation REU CNS 17-30181	$10,000	6/1/2019-5/31/22
Research Experience for Undergraduates: Supplement to CNS 17-30181	J. Maletic (PI)	National Science Foundation REU CNS 17-30181	$10,000	6/1/2018-5/31/22
CI-New: Collaborative: An Infrastructure that Combines Eye Tracking into Integrated Development Environments to Study Software Development and Program Comprehension www.i-Trace.org	Maletic, J.I. (PI), Sharif, B. (U Nebraska-Lincoln)	National Science Foundation CRI CNS 17-30181/30307 $527,779 Project Total	$290,610	6/1/2017-5/31/22
CI-ADDO-EN: Collaborative Research: Enhancing the srcML Infrastructure: A Multi-Language Exploration, Analysis, and Manipulation Framework www.srcML.org	Maletic, J.I. (PI), Collard, M.L. (Akron)	National Science Foundation CRI CNS 13-05292/05217 $800,000 Project Total	$600,877	7/1/2013-6/30/2018
Research Experience for Undergraduates: Supplement to CNS 13-05292	Maletic, J.I. (PI)	National Science Foundation REU CNS 17-12661	$5,000	5/6/2016-6/30/2018
Research Experience for Undergraduates: Supplement to CNS 13-05292	Maletic, J.I. (PI)	National Science Foundation REU CNS 15-42837	$8,000	5/6/2015-6/30/2018
Research Experience for Undergraduates: Supplement to CNS 13-05292	Maletic, J.I. (PI)	National Science Foundation REU CNS 14-41579	$5,000	5/6/2014-6/30/2018
Kent State University Scholarships for Broadening Participation in Sciences www.stem-scholarships.kent.edu/	Maletic, J.I. (PI), Ortiz, J., Selinger, R., Portman, J., Case, A.	National Science Foundation S-STEM DUE 11-54422	$599,999	8/01/2012 - 7/30/2018
MRI-R2 Consortium: Development of a Software Traceability Instrument to Facilitate and Empower Traceability Research and Technology Transfer	J. Huang (PI) (DePaul U.), Maletic, J.I. (KSU), D. Poshyvanyk (William&Mary)	National Science Foundation MRI-R2 CNS 09-59924 $2,000,000 Project Total	$389,292	6/01/2010-8/31/13

Funding Awards: Completed – External Federal Agency (continued)

Title	Investigator(s)	Agency/Source	Amount	Period
Research Experience for Undergraduates: Supplement to CCF 08-1102	Maletic, J.I. (PI)	National Science Foundation REU CCF 11-29908	$6,250	5/20/2011-7/31/11
Research Experience for Undergraduates: Supplement to CCF 08-1102	Maletic, J.I. (PI)	National Science Foundation REU CCF 10-37576	$6,250	5/20/2010-7/31/10
CPA-SEL-T: Collaborative Research: Traceability^{+}: A Service Oriented Framework to Support Value-Added Software Traceability	Maletic, J.I.., Hayes, J. (U. of Kentucky), Cleland-Huang, J. (DePaul U.)	National Science Foundation CPA CCF 08-11021 $750,000 Project Total	$250,000	8/1/2008-7/31/12
Kent State University Scholarships for Broadening Participation in Sciences	Maletic, J.I. (PI), Ortiz, J., Selinger, R., Portman, J., Lee, S.	National Science Foundation S-STEM DUE 06-31088	$499,926	9/15/2006-8/31/2012
NIST Summer Undergraduate Research Fellowship - MSEL	Maletic, J. I. (PI), Bartolo, L., Stemen K.	National Institute of Standards (NIST) 70NANB3H1025	$6,576	5/2003-8/2003
A Framework to Combine Semantic and Structural Information for Static Analysis	Maletic, J. I. (PI)	National Science Foundation SE&L CCR 02-04175	$150,000	8/2002-7/2005
Interactive Display Models for Information Visualization in Virtual Reality	Maletic, J. I. (PI)	Office of Naval Research MURI N00014-00-1-0769	$81,567	6/2001-9/2002
Instruments for Systems, Software, and Database Research	Maletic, J. I. (PI) Dasgupta, D. Lin, K.I., Das, G.	National Science Foundation CCR 98-18323 ($38,000) University of Memphis cost share ($21,000)	$59,000	3/1999-2/2002
Automated Data Cleansing	Maletic, J. I. (PI)	Office of Naval Research N00014-99-1-0730	$99,752	5/1999-5/2001
Workshop on Data Visualization	Maletic, J. I. (PI), Shah, P.	National Science Foundation IIS 99-07299	$10,264	5/1999-4/2001
Workshop on Data Visualization	Maletic, J. I. (PI), Shah, P.	Office of Naval Research N00014-99-1-0522	$10,263	5/1999-4/2000
Cognitive Studies of Complex Data Visualization	Shah, P. (PI), Maletic, J. I.	Office of Naval Research N00014-98-1-0350	$71,385	2/1998-9/2000
Analysis of Object Oriented Programming Paradigm as it Relates to Problem Solving	Maletic, J. I. (PI)	National Aeronautics and Space Administration (NASA) Office of Space Science, Graduate Student Researchers Fellowship	$44,000	7/1993-7/1995
Total			**$3,224,011**	

Funding Awards: Completed – External Industry

Title	Investigator(s)	Agency/Source	Amount	Period
Visualizing Large Scale Software Change Characteristics	Maletic, J.I.	ABB Inc. (Normal overhead rate)	$120,000	1/2012-12/2013
Visualizing Large Scale Software Change Characteristics	Maletic, J.I.	ABB Inc. (Normal overhead rate)	$61,720	1/2011-12/2011
Automatic Platform Change via a Transformational Approach using srcML	Maletic, J.I. (PI), Collard, M.L.	ABB Inc. (Normal overhead rate)	$59,741	11/2009-12/2010
Visualizing Large Scale Software Change Characteristics	Maletic, J.I.	ABB Inc. (Normal overhead rate)	$60,208	11/2009-12/2010
Automatic Platform Change via a Transformational Approach using srcML	Maletic, J.I. (PI), Collard, M.L.	ABB Inc. (Normal overhead rate)	$60,199	6/2008-5/2009
Equipment Grant for purchase of PN250b	Maletic, J.I.	SMARTer Kids Grant for SMART Roomware (NEC)	$1,200	4/25/2002
C++ Training Program	Maletic, J.I., Lin, K.I.	Brother Inc., Memphis TN (Normal overhead rate)	$12,500	7/1998-8/1998
Total			**$375,568**	

Funding Awards: Completed – University or State

Title	Investigator(s)	Agency/Source	Amount	Period
Diversifying Ohio in STEM (DO-STEM) – Sub-award from Central State University	Maletic, J.I.	Choose Ohio First	$42,300	7/1/08-6/30/13
Support for the Evolution of Software Traceability Links	Maletic, J.I.	Kent State University Summer Research Appointment	$6,500	6/06-8/06
Automatically Clustering Software Components	Maletic, J.I.	The University of Memphis, New Faculty Research Initiative	$8,500	5/99-4/00
Supplemental Overhead in support of GSRP Fellowship	Maletic, J.I.	Graduate School, Wayne State University	$1,000	7/93-6/94
Total			**$58,300**	

Proposals Submitted & Unfunded – External Federal Agency

1. Collaborative Research: SHF: Medium: Using Eye Movements to Predict Developer Comprehension Strategies in Software Engineering Tasks, Sharif, B. (U of Nebraska-Lincoln), Maletic, J.I. **$466K** (KSU), $480K (UNL) $946K (total), Dec. 2021
2. Collaborative Research: SHF: Medium: Crafting a Holistic Theory of Identifier Readability, Newman, C. (RIT), Decker, M., Maletic, J.I. **$422K** (KSU), $380K (RIT), $290K (BGSU), $1M (total), Dec. 2021
3. Collaborative Research: SHF: Medium: Using Eye Movements to Predict Developer Comprehension Strategies in Software Engineering Tasks, Sharif, B. (U of Nebraska-Lincoln), Maletic, J.I. **$466K** (KSU), $480K (UNL) $946K (total), Nov. 2020
4. SHF: Medium: Collaborative Research: Supporting Adaptive Maintenance on Large-Scale Software, Maletic, J.I. (PI-Lead), Newman, C. (RIT), Decker, M. (BGSU), National Science Foundation CCF Core Programs - Medium, Total (KSU+RIT+BGSU): ~$1.1M, **$421K** (KSU), Sept. 2017
5. Scholarships for Broadening Participation in the Sciences, Maletic, J.I. (PI),Ortiz, J., Selinger, R., Portman, J., Case, A., National Science Foundation SSTEM 7-527, **$1M**, March 2017.
6. *SHF: Small:* Supporting Adaptive Maintenance on Large-Scale Software, Maletic, J.I. (PI), National Science Foundation CCF: Core Programs 15-573, **$500K**, Nov. 2016 Rated Competitive
7. *CI-New: Collaborative: An Infrastructure that Combines Eye Tracking into Integrated Development Environments to Study Software Development and Program Comprehension*, Maletic, J.I. (PI), Sharif, B. (YSU), National Science Foundation CRI 15-590, **$1M**, Jan. 2016, Pre-proposal Encouraged, Rated Competitive
8. *SHF: Small: Supporting System Wide Adaptive Changes in Large-Scale Software*, Maletic, J.I. (PI), National Science Foundation CCF: Core Programs 15-573, **$500K**, Nov. 2015, Rated Competitive
9. *SHF: Small: Facilitating Software Maintenance using Syntactic-Aware Domain-Specific Exploration and Manipulation Languages*, Maletic, J.I. (PI), National Science Foundation CCF: Core Programs 13-579, **$500K**, Jan. 2015
10. *SHF: Small: Facilitating Software Maintenance using Syntactic-Aware Domain-Specific Search and Transformation Languages*, Maletic, J.I. (PI), National Science Foundation CCF: Core Programs 13-579, **$500K**, Dec. 2013, Rated Competitive
11. *SHF: Small: Supporting Large Scale Adaptive Maintenance and Migration*, Maletic, J.I. (PI), National Science Foundation CCF: Core Programs 12-581, **$500K**, Dec. 2012
12. *CI-ADDO-EN: Collaborative Research: TraceLab and Beyond - Building a Shared Research Environment for Empirical Software Engineering Experiments*, Cleland-Huang, J., (DePaul), Poshyvanyk, D., (W&M), Maletic, J.I. (KSU), Hayes, J. (U of Kentucky), Gethers, M. (UMBC), National Science Foundation CRI 11-536, **$125K** (KSU), $950K Total, Oct. 2012, Rated Competitive
13. *SHF: Small: Automated Construction of Transformations Rules to Support Large Scale Adaptive Changes*, Maletic, J.I. (PI), National Science Foundation CCF: Core Programs 11-557, **$358,320**, Dec. 2011
14. *CI-ADDO-EN: Enhancing the srcML Infrastructure A Robust Reverse Engineering Parser to Support Static Analysis, Transformation, and Syntactic Differencing*, Maletic, J.I. (PI), Collard, M.L. (Akron), National Science Foundation CRI 11-536, KSU: **$675,549**, Akron: $227,164, Total: $902,713, Oct. 2011, Rated Competitive
15. *Kent State University Scholarships for Broadening Participation in Sciences*, Maletic, J.I. (PI), Ortiz, J., Selinger, R., Portman, J., Lee, S., National Science Foundation S-STEM, **$599,954**, August 2010
16. *SHF: Medium: Collaborative Research: The Software Engineering of Generic Libraries*, J. Maletic (PI), J. Seik (U Colorado), M. Collard (U Akron), National Science Foundation - CCF: Core Programs, **$738,003** KSU, $244,578 UC, $217,415 Akron, $1,199,996 Total, August 2009, Rated Competitive
17. *The Software Engineering of Generic Libraries*, J. Maletic (PI), National Science Foundation - CCF: Core Programs-Small, **$488,186**, 3 years, Dec. 2008, Rated Competitive
18. *Collaborative Research: Visualization Support for Software Evolution*, Marcus, A. (PI), Maletic, J., , National Science Foundation – CPA, **$455,000** (KSU), $468,000 (WSU), 3 years, Oct. 2006
19. *Collaborative Research: Visualization Support for Software Evolution*, Marcus, A. (PI), Maletic, J., Draghici, S., National Science Foundation – CPA, **$451,068** (KSU), $465,000 (WSU), 3 years, June 2005
20. *Collaborative Research: A 3D Metaphor for Software and Data Visualization*, Marcus, A. (PI), Maletic, J., Draghici, S., National Science Foundation - CPA, **$286,132** (KSU), $299,694 (WSU), 3 years , March 2004
21. *Meta-differencing: A Mechanism for Analyzing Source Code Changes*, Maletic, J. (PI), National Science Foundation - CPA, **$392,695**, 3 years, March 2004
22. *The Kent State University Computer Science Educational and Economic Initiative***,** Walker, R. (PI), Lu, C.C., Maletic, J., National Science Foundation - CSEMS-CS, ENG & MATH Scholarships, **$398,733**, 4 years, January 2004

23. *Supporting Maintenance and Development Through Visualizing Software Systems in Collaborative Virtual Reality Environments*, Maletic, J. (PI), Leigh, J., National Science Foundation - NGS, **$591,265**, 3 years, November 2001
24. *ITR/SY+SI: Supporting Maintenance and Development through Visualizing Software Systems in Collaborative Virtual Reality Environments*, Maletic, J. (PI), Leigh, J., National Science Foundation - ITR , **$457,803**, 3 years, January 2001
25. *Interactive Display Models for Information Visualization in Virtual Reality*, Maletic, J. (PI), Office of Naval Research, **$181,902**, 3 years, August 2000
26. *Combining Information Retrieval Methods and Structural Measures to Define Semantic Similarities Between Source Code Components*, Maletic, J. (PI), National Science Foundation – CAREER, $**516,007**, 5 years, July 2000
27. *Supporting Software Reuse through Research and Education*, Maletic, J. (PI), National Science Foundation – CAREER, **$351,196**, 4 years, July 1999
28. *Supporting Reuse and Understanding using Latent Semantic Analysis*, Maletic, J. (PI), National Science Foundation – CAREER, **$208,893**, 4 years, July 1998

Proposals Submitted & Unfunded – University or State

1. *Eye Tracking and Cognitive Processing During Comprehension: An Interdisciplinary Proposal*, J. Folk (PI), J. Maletic, Kent State University OBR Research Incentive, **$34,750**, March 2010
2. *Eye Tracking and Cognitive Processing During Comprehension: An Interdisciplinary Proposal*, J. Folk (PI), J. Maletic, Kent State University OBR Research Incentive, **$50,000**, Dec. 2008
3. *STEM Scholarship Program*, Kent State University (Lead) *In conjunction with:* KSU Regional Campuses, Youngstown State University, Cuyahoga Community College, Lorain County Community College, Stark State Technical College, Lakeland Community College, A. Gericke (Lead), J. Ortiz (Lead), J. Maletic (Co-PI), D. Stroup (Co-PI),J. Blank (Co-PI), R. Gregory (Co-PI), B. Anderson (Co-PI), J. Gleeson (Co-PI), A. Leff (Co-PI), D. Lawless-Andric (Co-PI), State of Ohio, Choose Ohio First Scholarship Program, $8,069,460 (Total), **$5,990,500** (KSU), Jan. 2008
4. *sv3D: A 3D Information Visualization System*, Maletic, J.I, Volkert, L.G., Kent State University OBR Research Challenge, **$59,836**, Oct. 2005
5. *sv3D: A 3D Information Visualization System to Support Simultaneous Display of Multiple Attributes Over Partitioned Information Spaces*, Maletic, J.I, Volkert, L.G., Kent State University OBR Research Challenge, **$69,825**, Oct. 2004

Awards, Honors, and Recognitions

- ***Distinguished Reviewer Award***. IEEE International Conference on Program Comprehension (ICPC) 2024. Awarded to program committee members for distinguished service in reviewing submitted papers.
- ***Most Influential Paper Award***. IEEE 21st Working Conference on Source Code Analysis and Manipulation (SCAM) 2021. Most influential paper from the event 10 years previous. Awarded to paper [97] published at the conference in 2011.
- ***Kent State University Outstanding Research and Scholarship Award***. University Research Council & The Division of Research and Sponsored Programs, 2021.
- ***IEEE TCSE Distinguished Paper Award***. Awarded to paper [147] at the 36th IEEE International Conference on Software Maintenance and Evolution (ICSME) 2020.
- ***Mining Software Repositories Foundational Contribution Award.*** 2020. Jonathan I. Maletic and Michael L. Collard for their work developing the srcML Infrastructure, "which addresses many hard problems in source code parsing and has fostered a wide range of research innovations throughout software engineering".
- ***Keynote Speaker*** (Invited), the 27th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER), London, Ontario, Canada, Feb. 18 - 21, 2020. "srcML a Retrospective: The Trials and Tribulations of Building Real Software in an Academic Environment".
- ***Best Challenge Entry Award***. 3rd International Workshop on Dynamic Software Documentation (DySDoc) 2018. Awarded to documentation tool challenge demonstration summarized in paper [137].
- ***Best Demo Award***. ACM Symposium on Eye Tracking Research and Applications (ETRA) 2018. Awarded to tool demonstration summarized in paper [130].
- ***Most Influential Paper Award***. IEEE Working Conference on Software Visualization (VISSOFT) 2017. Most influential paper from the event 15 years previous. Awarded to paper [37] published at the IEEE Workshop on Visualizing Software for Understanding and Analysis (VISSOFT) 2002.
- ***Top 100 Most Influential Scholars*** in Software Engineering 2016, AMiner, (ranked 79th).
- ***Most Influential Paper Award***. IEEE CSMR-WCRE 2014, the European Conference on Software Maintenance (CSMR'14) and the International Working Conference on Reverse Engineering (WCRE'14). Most influential paper from the events 10 years previous. Awarded to paper [50] published at the IEEE International Working Conference on Reverse Engineering 2004.
- ***Most Influential Paper Award***. IEEE International Conference on Program Comprehension (ICPC) 2013. Most influential paper from the event 10 years previous. Awarded to paper [42] published at the International Workshop on Program Comprehension 2003.
- ***Invited to Journal Special Issue of the Best Papers***. IEEE Working Conference on Reverse Engineering (WCRE) 2012 paper [102], *Journal of Software: Evolution and Process*
- ***Invited to Journal Special Issue of the Best Papers***. IEEE International Conference on Program Comprehension (ICPC) 2010 paper [92], *Journal of Empirical Software Engineering*
- ***Invited to Journal Special Issue of the Best Papers***. IEEE International Conference on Program Comprehension (ICPC) 2009 paper [83], *Journal of Software Quality*
- ***Invited to Journal Special Issue of the Best Papers***. IEEE International Symposium on Web Site Evolution (WSE) 2006 paper [62], *Journal of Software Maintenance and Evolution: Research and Practice*
- ***Invited to Journal Special Issue of the Best Papers***. IEEE Working Conference on Reverse Engineering (WCRE) 2005 paper [57], *Information and Software Technology*

Software Systems & Infrastructure Developed

- ***srcML*** – a highly scalable infrastructure to explore, analyze, and manipulate source code. License: GPL3. Over 9000 downloads since 2015. Supported in part by NSF. Developed collaboratively with M. Collard.
  Supported 2004 - current
  Available at www.srcML.org
- ***srcDiff*** – an infrastructure to support syntactic differencing of source code. License: GPL3. Supported in part by NSF. Developed collaboratively with M. Decker and M. Collard.
  Supported 2023 - current
  Available at www.srcDiff.org
- ***iTrace*** - an infrastructure to support eye-tracking in an IDE. License: GPL3. Support scrolling and switching between files in MS Visual Studio and Eclipse. Allows for real world type studies of how programmers understand large software systems. Supported in part by NSF. Developed collaboratively with B. Sharif.
  Supported 2017 - current
  Available at www.i-Trace.org
- ***MosaiCode*** – an independent visualization front end for software analysis. Developed collaboratively with D. Mosora.
  Supported 2010 - 2014.
  Available at www.sdml.cs.kent.edu.
- ***sv3D*** – an independent visualization front end for software analysis tools. Developed collaboratively with L. Feng and A. Marcus.
  Supported 2003 - 2007
  Available at www.sdml.cs.kent.edu.

Publications and Scholarly Work

Citation counts are taken from Google Scholar (see Maletic) and retrieved on *15 April 2024*.

Bibliometrics

- Google Scholar *h-index* is **48** and *i10-index* is **114**, *i100-index* is **28**, total citations **10,365**.

Works Under Review

- Behler, DeLozier, Collard, Maletic, "An Idiomatic and Systematic Approach to Create Pythonic Bindings of C Libraries", submitted to ICSME 2024.
- Behler, Al-Ramadan, Baheri, Guan, Maletic, "Supporting Program Analysis and Transformation of Quantum-Based Languages", submitted to IEEE International Conference on Quantum Computing and Engineering QCE 2024.
- Al Madi, Feldt, Raymond, Tariq, Want, Sharif, Maletic, "Understanding Developers' Perceptions and Reality when Collaborating with Large Language Models" submitted to *Journal of Empirical Software Engineering*, major revision requested April 29, 2024.

Works Accepted and to Appear

- None

Publications (refereed conference & journal)

158. Behler, J., Ghiudioni, G., Ely, A., Pangonis, J., Sharif, B., Maletic, J.I., (2023), "iTrace-Visualize: Visualizing Eye-Tracking Data for Software Engineering Studies", in the Proceedings of the 11th IEEE Working Conference on Software Visualization (VISSOFT 2023), Bogota, Colombia, October 2-3, 6 pages.
157. Behler, J., Weston, P., Guarnera, D.T., Sharif, B., Maletic, J.I., (2023), "iTrace-Toolkit: A Pipeline for Analyzing Eye-Tracking Data of Software Engineering Studies", in the Proceedings of the 45th IEEE/ACM International Conference on Software Engineering (ICSE 2023) Demonstrations Track, Melbourne, Australia, May 14-20, 4 pages.
156. Aljehane, S., Sharif, B., Maletic, J.I., (2023), "Studying Developer Eye Movements to Measure Cognitive Workload and Visual Effort for Expertise Assessment", *Journal of the Proceedings of the ACM on Human-Computer Interaction*, special issue of ACM Symposium on Eye tracking Research and Applications (ETRA23), Turingen, Germany, May 30 - June 2, 17 pages.
155. Vlas Zyrianov, Cole S. Peterson, Drew T. Guarnera, Joshua Behler, Praxis Weston, Bonita Sharif, Jonathan I. Maletic, (2022), "Deja Vu: Semantics-Aware Recording and Replay of High-Speed Eye Tracking and Interaction Data to Support Cognitive Studies of Software Engineering Tasks - Methodology and Analyses", *Journal of Empirical Software Engineering*, Special Issue on Best Papers from ICSME 2020, Vol. 27, No. 7, December, 46 pages. DOI 10.1007/s10664-022-10209-3
154. Alsuhaibani, R., Newman, C., Decker, M., Collard, M.L., Maletic, J.I., (2022), "An Approach to Automatic AssessMethod Names", in the Proceedings of the 30th IEEE/ACM International Conference on Program Comprehension, Pittsburgh, PA, USA , May 16-17, 12 pages. (*40% acceptance rate*)
153. Aljehane, S., Sharif, B., Maletic, J.I., (2021), "Determining Differences in Reading Behavior Between Experts and Novices by Investigating Eye Movement on Source Code Constructs During a Bug Fixing Task", in the Proceedings of the ACM Workshop on Eye Movements in Programming (EMIP), Virtual Event Stuttgart, Germany, May 24-27, 8 pages (*Cited by **14** Google Scholar*)
152. Al Madi, N., Guarnera, D.T., Sharif, B., Maletic, J.I., (2021), "EMIP Toolkit: A Python Library for Customized Post-processing of the Eye Movements in Programming Dataset", in the Proceedings of the ACM Workshop on Eye Movements in Programming (EMIP), Virtual Event Stuttgart, Germany, May 24-27, 6 pages
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149. Sarah Fakhoury, Devjeet Roy, Harry Pines, Tyler Cleveland, Cole Peterson, Venera Arnaoudova, Bonita Sharif and Jonathan Maletic, (2021) "Gazel: Supporting Source Code Edits in Eye-Tracking Studies", in the Proceedings of the 43rd International Conference on Software Engineering: Companion (ICSE-Companion), Tool Demonstrations Track, Madrid Spain, May 25 - 28, pp. 69-72.
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146. Unaizah Obaidellah, Tanja Blascheck, Guarnera, D.T., Maletic, J.I., (2020) "A Fine-grained Assessment on Novice Programmers' Gaze Patterns on Pseudocode Problems", in the Proceedings of the 7th ACM International Workshop on Eye Movements in Programming (EMIP), (co-located with ETRA) Stuttgart, Germany, June 2-5, 5 pages.
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Maintenance & Evolution (ICSME'16), (Tool Demonstrations Track) Raleigh Durham, NC, USA, Oct 2-10, 2 pages. (43% *acceptance rate for tool track*) (*Cited by **13** Google Scholar*)

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Book Chapters (refereed)

1. Sharif, B., Dragan, N., Sutton, A., Collard, M.L., Maletic, J.I., (2013) "Identifying and Analyzing Software Design Activities", Chapter 10 in Software Designers in Action: A Human-Centric Look at Design Work, Petre, Marian, van der Hoek, Andre, Eds., Chapman and Hall/CRC Press, September, ISBN 978-1466501096, 22 pages of 452 pages.
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Theses

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5. Maletic, J.I., Collard, M.L., (2005), "Adding Structure to Unstructured Text", in the proceedings of Wright Center of Innovation for Advanced Data Management and Analysis and LexisNexis Conference on Using Metadata to Manage Unstructured Text, Dayton Ohio, October 7, 5 pages.
6. Maletic, J.I., (2002), "Interactive Display Models for Information Visualization in Virtual Reality", in the proceedings of the MAS V – Military Personnel Research Workshop, Memphis, TN, June 4.
7. Maletic, J.I., (2001), "Automated Data Cleansing", in the proceedings of the MAS IV – Military Personnel Research Science Workshop, Memphis, TN, June 4.
8. Maletic, J.I., Shah, P., (2000), "Workshop on Data Visualization", in the proceedings of the 2000 NSF Information and Data Management Workshop: Research Agenda into the Future, Chicago, IL, March 5-7, pp. 144-146.
9. Marcus, A., Maletic, J.I., (2000), "Utilizing Association Rules for the Data Cleansing", The University of Memphis, Division of Computer Science, TR-CS-00-04, 5-8-2000
10. Maletic, J.I., Marcus, A., (2000), "Utilizing Association Rules for Identification of Possible Errors in Data Sets", The University of Memphis, Division of Computer Science, TR-CS-00-03, 2-28-2000
11. Maletic, J.I., Marcus, A., (2000), "Automated Identification of Errors in Data Sets", The University of Memphis, Division of Computer Science, TR-CS-00-02, 2-2-2000
12. Maletic, J.I., Marcus, (1999), "A Progress Report on Data Cleansing", The University of Memphis, Division of Computer Science, TR-CS-99-02, 10-18-1999

Editor of Proceedings

1. *The Proceedings of the 35th IEEE International Conference on Software Maintenance and Evolution (ICSME 2019)*, J. I. Maletic, B. Robinson, M. Kim, A. Beszedes (Editors), October, Cleveland, Ohio, USA, ISBN 978-1-7281-3094-1, 2019.
2. *The Proceedings of the 24th IEEE International Conference on Program Comprehension (ICPC 2016)*, G. Bavota, M.L. Collard, J. I. Maletic (Editors), May 16-17, Austin, Texas, USA, ISBN 978-1-5090-1428-6, 2016.
3. *The Proceedings of the 28th IEEE International Conference on Software Maintenance (ICSM 2012)*, P. Tonella, M. Di Penta, J. I. Maletic (Editors), September, Riva Del Garda, Trento, Italy, ISBN 978-1-4673-2312-3, 2012.
4. *The Proceedings of the 14th IEEE Working Conference on Reverse Engineering (WCRE 2007)*, M. Di Penta, J. I. Maletic (Editors), October 28-31, Vancouver, BC, Canada, ISBN 0-7695-3034-6, 2007.
5. *The Proceedings of the ACM International Workshop on Empirical Assessment of Software Engineering Languages and Technologies (WEASELTech'07),* E. Kraemer, J.I. Maletic (Editors), November 5, Atlanta Georgia, USA, ACM, ISBN 978-1-59593-880-0, 2007.
6. *The Proceedings of the IEEE 4th International Workshop on Visualizing Software for Understanding and Analysis VISSOFT 2007*, J.I. Maletic, A. Telea, A. Marcus (Editors), June 25-26, Banff Alberta, Canada, IEEE, ISBN 1-4244-0600-5, 2007.
7. *The Proceedings of the ACM 3rd International Workshop on Traceability in Emerging Forms of Software Engineering TEFSE 2005*, J.I. Maletic, J. Cleland-Huang, J. H. Hayes, G. Antoniol (Editors), November 8th, Long Beach California, ACM, ISBN 1-59593-243-7, 2005.
8. *The Proceedings of the IEEE 3rdInternational Workshop on Visualizing Software for Understanding and Analysis VISSOFT 2005*, A. Marcus, J.I. Maletic, M.-A. Storey, M. Lanza, S. Ducasse (Editors), September 25th, Budapest Hungary, IEEE, ISBN 0-7803-9540-9, 2005.

9. *The Proceedings of the IEEE 13th International Workshop on Program Comprehension IWPC 2005*, J.R. Cordy, H. Gall, J.I. Maletic (Editors), May 15-16, St. Louis, Missouri USA, IEEE Computer Society, ISBN 0-7695-2254-8, 2005.
10. *The Proceedings of the 2002 ACM Symposium on Document Engineering*, R. Furuta, J.I. Maletic, E. Munson (Editors), Nov. 8-9, McLean, Virginia USA, ACM Press, ISBN 1-58113-594-7, 2002.

Guest Editor of Journal Special Issues

1. G. Bavota, J. I. Maletic, M.L. Collard, Guest Editors, Special Issue: Best Papers from ICPC 2016, *Journal of Software: Evolution and Process*, vol. 30, No. 6, June 2018.
2. M. Di Penta, J. I. Maletic, Guest Editors, Special Issue: Best Papers from ICSM 2012, *International Journal of Empirical Software Engineering*, vol. 20, No. 2, April 2015.
3. M. Di Penta, J. I. Maletic, Guest Editors, Special Issue: Best Papers from WCRE 2007, *Software Quality Journal*, vol. 17, No. 4, 2009.
4. J. R. Cordy, H. C. Gall, J. I. Maletic, Guest Editors, Special Issue: Program Comprehension, *Software Quality Journal*, vol. 14, No. 3, 2006.

Invited Presentations & Colloquia

1. "Enabling Automated Language Support for the srcML Infrastructure", NSF CIRC PI Meeting, Salt Lake City, UT, Nov. 6-7, 2023.
2. Presentation, Most Influential Paper Award, IEEE Working Conference on Source Code Analysis and Manipulation (SCAM), virtual, Sept. 28, 2021, co-presented with Collard, M.L., Decker, M.
3. Presentation, Mining Software Repositories Foundational Contribution Award 2020, For the work developing the srcML Infrastructure, IEEE International Conference on Mining Software Repositories (MSR), Soul, South Korea (Virtual), June 29-30, co-presented with Collard, M.L.
4. Keynote Address, IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER), London, Ontario, Canada, Feb. 18 - 21, "srcML a Retrospective: The Trials and Tribulations of Building Real Software in an Academic Environment".
5. Colloquia, Rochester Institute of Technology, Rochester NY, April 19, 2019, "Exploration, Analysis, and Manipulation of Source Code using srcML".
6. Colloquia, Kent State University, Jan. 2018, *Computer Science Research Day*, "Exploration, Analysis, and Manipulation of Source Code using srcML".
7. Presentation, Most Influential Paper Award, IEEE Working Conference on Software Visualization (VISSOFT), Shanghai China, Sept. 28, 2017, co-presented with Marcus, A.
8. Tutorial, Mining & Modeling Unstructured Data in Software - Challenges for the Future, NII Shonan Meeting Seminar 084, Japan, March 6-10, 2016, "Tutorial: Exploration, Analysis, and Manipulation of Source Code using srcML".
9. Presentation, Mining & Modeling Unstructured Data in Software - Challenges for the Future, NII Shonan Meeting Seminar 084, Japan, March 6-10, 2016, "Part-of-Speech Tagging of Source Code Identifiers (and Comments)".
10. Tutorial, 5th Workshop on Mining Unstructured Data (MUD'15), Bremen, Germany, Sept 28, 2015, "Tutorial: Exploration, Analysis, and Manipulation of Source Code using srcML"
11. Presentation, Most Influential Paper Award, The 21 International Conference on Program Comprehension (ICPC), San Francisco, California, May 21, 2013 , co-presented with Collard, M.L.
12. Colloquia, Wayne State University, Department of Computer Science, March 8, 2012, "Tools, Methods, and Understanding for Software Evolution" & "Future Directions for the CS Department at WSU"
13. Presentation, Frontiers of Software Maintenance (FoSM'08) at the 24th IEEE International Conference on Software Maintenance (ICSM'08), Beijing China, Sept. 30, 2008, "Expressiveness and Effectiveness of Program Comprehension: Thoughts on Future Research Directions"
14. Colloquia, Miami University, Oxford Ohio, Nov. 7, 2006, "srcML: Supporting Source-Code Analysis & Transformation"
15. Colloquia, ABB Inc., Cleveland Ohio, August 17th, 2006, "Supporting Source-Code Analysis & Transformation with srcML"
16. Colloquia, Wayne State University, January 27th, 2004, Computer Science Colloquium, "Source Code Models as an Infrastructure for Program Analysis and Transformation"
17. Colloquia, Kent State University, October 31st, 2001, Computer Science Colloquium, "Visualizing Software in a Virtual Reality Environment"

18. Colloquia, The University of Wisconsin - Milwaukee, March 30th, 2001 “Combining Semantic and Structural Information for Program Comprehension”
19. Colloquia, Kent State University, March 23rd, 2001 “Combining Semantic and Structural Information for Program Comprehension”
20. Colloquia, Oakland University, March 14th, 2001 “Combining Semantic and Structural Information for Program Comprehension”
21. Colloquia, The University of Delaware, March 9th, 2001 “Combining Semantic and Structural Information for Program Comprehension”
22. Colloquia, Syracuse University, March 5th, 2001 “Combining Semantic and Structural Information for Program Comprehension”
23. Colloquia, The University of New Hampshire, March 2nd, 2001 “Combining Semantic and Structural Information for Program Comprehension”
24. Colloquia, The University of Massachusetts-Lowell, March 1st, 2001 “Combining Semantic and Structural Information for Program Comprehension”
25. Colloquia, Worcester Polytechnic University, Feb. 23rd 2001 “Combining Semantic and Structural Information for Program Comprehension”
26. Colloquia, Western Michigan University, Feb. 15th, 2001 “Combining Semantic and Structural Information for Program Comprehension”
27. Colloquia, Drexel University, Feb. 9th, 2001 “Combining Semantic and Structural Information for Program Comprehension”
28. Colloquia, The University of Michigan - Dearborn, February 18th, 1997, "Stepwise Refinement and Problem Solving"
29. Colloquia, The City College of New York (CUNY) June 15th, 1996, "Stepwise Refinement and Problem Solving"
30. Colloquia, CSTAR of Andersen Consulting, May 10th, 1995, "Extracting Procedural Knowledge from Software Systems Using Inductive Learning Techniques"
31. Colloquia, NASA IV&V and CERC at West Virginia University, January 17-18, 1991 "Extracting Procedural Knowledge from Software Systems Using Inductive Learning Techniques"
32. Presentation, The University of Michigan-Flint, *ACM Student Chapter Annual Future in Computing Seminar*, Flint, Mi. Feb. 10, 1989 “Artificial Intelligence and Software Engineering”

Presentations at Conferences, Symposia, and Workshops

1. “iTrace-Visualize: Visualizing Eye-Tracking Data for Software Engineering Studies”, at the 11th IEEE Working Conference on Software Visualization (VISSOFT), Bogota, Colombia, October 2-3, 2023.
2. “Slice-Based Metrics for Defect Prediction” at the 27th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER), London, Ontario, Canada, Feb. 18 - 21, 2020.
3. “Simplifying the Construction of Source Code Transformations via Automatic Syntactic Restructurings” Journal First Presentation at the 33rd IEEE International Conference on Software Maintenance & Evolution (ICSME), Shanghai, China,Sept. 22,2017. Paper appears in *Journal of Software Evolution & Process*, Vol. 29, No. 4.
4. “Lexical Categories for Source Code Identifiers”, at the 24th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER), Klagenfurt, Austria, Feb. 22, 2017.
5. “srcQL: A Syntax-Aware Query Language for Source Code” at the 24th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER), Klagenfurt, Austria, Feb. 23, 2017.
6. “srcSlice: A Tool for Efficient Static Forward Slicing”, at the 38th ACM/IEEE International Conference on Software Engineering (ICSE’16), Austin, Texas USA, May 21, 2016.
7. “Exploration, Analysis, and Manipulation of Source Code using the srcML Infrastructure”, at the 30th International Conference on Software Maintenance & Evolution (ICSME), Victoria, British Columbia, Canada, Oct. 2nd and 3rd, 2014.
8. “Improving Feature Location by Enhancing Source Code with Stereotypes”, at the 29th IEEE International Conference on Software Maintenance (ICSM), Eindhoven, The Netherlands, Sept. 26, 2013.
9. “Understanding Large-Scale Adaptive Changes from Version Histories: A Case Study”, at the 29th IEEE International Conference on Software Maintenance (ICSM), Eindhoven, The Netherlands, Sept. 24, 2013.
10. “A Preliminary Investigation of Using Age and Distance Measures in the Detection of Evolutionary Couplings” at the 10th IEEE/ACM Working Conference on Mining Software Repositories (MSR), San Francisco, California, USA, May 19, 2013.

11. “A TraceLab-Based Solution for Identifying Traceability Links using LSI”, at the 7th IEEE International Workshop on Traceability in Emerging forms of Software Engineering (TEFSE), San Francisco, California, USA, May 19, 2013.
12. “Empirically Examining the Parallelizability of Open Source Software Systems”, at the IEEE International Working Conference on Reverse Engineering (WCRE’12), Kingston, Ontario, Canada, October 17, 2012.
13. “A Very Efficient and Scalable Forward Static Slicing Approach”, at the IEEE International Working Conference on Reverse Engineering (WCRE’12), Kingston, Ontario, Canada, October 18, 2012.
14. “MosaiCode: Visualizing Large Scale Software: A Tool Demonstration”, at the IEEE International Workshop on Visualizing Software for Understanding and Analysis (VISSOFT’11), Williamsburg, VA, USA, Sept 31.
15. “Categorizing Commits Based on Method Stereotypes”, at the 27th IEEE International Conference on Software Maintenance (ICSM’11), Williamsburg, VA, USA, Sept 26.
16. “An Eye Tracking Study on the Effects of Layout in Understanding the Role of Design Patterns”, at the 26th IEEE International Conference on Software Maintenance (ICSM’10), Timisoara, Romania, Sept 12 – 18.
17. “An Eye tracking Study on camelCase and under_score Identifier Styles”, at the 18th IEEE International Conference on Program Comprehension (ICPC'10), Braga, Portugal, June 30 – July 2, 2010
18. “Identifying Design Activities via Discourse and Content Analysis”, at the NSF Workshop on Studying Professional Software Development, University of California-Irvine, Irvine, CA, February 8, 2010.
19. "Using Method Stereotype Distribution as a Signature Descriptor for Software Systems", at the IEEE International Conference on Software Maintenance (ICSM’09), Edmonton, Canada, September 20-26.
20. "The Effect of Layout on the Comprehension of UML Class Diagrams: A Controlled Experiment", at the IEEE International Workshop on Visualizing Software for Understanding and Analysis (VISSOFT’09), Edmonton, Canada, September 25.
21. "An Empirical Study on the Comprehension of Stereotyped UML Class Diagram Layouts", at the 16th IEEE International Conference on Program Comprehension (ICPC'09), Vancouver, BC, Canada, May 17-19.
22. "TQL: A Query Language to Support Traceability", at the 5th ACM International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'09), Vancouver, BC, Canada, May 18.
23. "Who Can Help Me with this Source Code Change?", at the 24th IEEE International Conference on Software Maintenance (ICSM'08), Beijing China, Oct. 1.
24. "Automatically Identifying C++0x Concepts in Function Templates", at the 24th IEEE International Conference on Software Maintenance (ICSM'08), Beijing China, Sept. 30 – Oct. 4.
25. "What’s a Typical Commit? A characterization of Open Source Software Repositories", at the 16th IEEE International Conference on Program Comprehension (ICPC'08), Amsterdam, The Netherlands, June 13, 2008.
26. "On Using Eye Tracking in Empirical Assessment of Software Visualizations", at the 1st ACM Workshop on Empirical Assessment of Software Engineering Languages and Technologies (WEASELTech’07), Atlanta, GA, Nov. 5, 2007.
27. "Assessing the Comprehension of UML Diagrams via Eye Tracking", at the 15th IEEE International Conference on Program Comprehension (ICPC'07), Banff, Canada, June 26-29, 2007.
28. "Mining Software Repositories for Traceability Links", in Proceedings of 15th IEEE International Conference on Program Comprehension (ICPC 2007), Banff, Canada, June 26-29, 2007.
29. "Onion Graphs for Focus+Context Views of UML Class Diagrams", at the 4th IEEE International Workshop on Visualizing Software for Understanding and Analysis (VISSOFT 2007), Banff Canada, June 25-26, 2007.
30. “Reverse Engineering Method Stereotypes” at the IEEE 22nd International Conference on Software Maintenance (ICSM06), Philadelphia, Pennsylvania USA, September 25, 2006.
31. “Visualization & Traceability: Challenges & Research Directions”, at the Center of Excellence for Traceability Workshop on Grand Challenges in Traceability (GCW’06) at NASA IV & V Fairmont WV, August 4th, 2006.
32. “An XML-Based Approach to Support the Evolution of Model-to-Model Traceability Links”, at the 3rd ACM International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE’05), Long Beach CA, Nov. 8th, 2005.
33. “Adding Structure to Unstructured Text”, at the Wright Center of Innovation for Advanced Data Management and Analysis and LexisNexis Conference on Using Metadata to Manage Unstructured Text, Dayton Ohio, October 7, 2005.

34. "Context-Free Slicing of UML Class Models", in Proceedings of the 21st IEEE International Conference on Software Maintenance (ICSM'05), Budapest Hungary, September 25-30 2005.
35. "Evaluating UML Class Diagram Layout based on Architectural Importance", in Proceedings of the 3rd IEEE International Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'05), Budapest, Hungary September 25th, 2005.
36. "Towards a Taxonomy of Approaches for Mining of Source Code Repositories" at the International Workshop on Mining Software Repositories (MSR '05), St. Louis Missouri, May 17th, 2005.
37. "Document-Oriented Source Code Transformation using XML" at the 1st International Workshop on Software Evolution Transformation (SET'04), Delft, The Netherlands, Nov. 9th, 2004.
38. "Leveraging XML Technologies in Developing Program Analysis Tools" at the 4th International Workshop on Adoption-Centric Software Engineering (ACSE '04) – ICSE'04 Workshop, Edinburgh, Scotland, May 25, 2004
39. "Combining Traceability Link Recovery with Conformance Analysis via a Formal Hypertext Model", at the 2nd International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'03), Montreal, Canada, October 7th, 2003.
40. "CFB: A Call For Benchmarks – for Software Visualization", at the 2nd IEEE Workshop of Visualizing Software for Understanding and Analysis (VISSOFT'03), Amsterdam, The Netherlands, September 22nd, 2003
41. "Recovering Documentation-to-Source-Code Traceability Links using Latent Semantic Indexing" at the 25th ACM/IEEE International Conference on Software Engineering (ICSE'03), Portland, OR, May 6, 2003
42. "A Task Oriented View of Software Visualization", at the IEEE Workshop of Visualizing Software for Understanding and Analysis (VISSOFT'02), Paris France, June 26, 2002.
43. "Source Code Files as Structured Documents", at the 10th IEEE Workshop on Program Comprehension (IWPC'02), Paris France, June 27, 2002.
44. "Interactive Display Models for Information Visualization in Virtual Reality", at the MAS V – Military Personnel Research Workshop, Memphis, TN, June 4, 2002
45. "Identification of High-Level Concept Clones in Source Code", at the 16th International Conference on Automated Software Engineering (ASE'01), San Diego, CA, November 26-29, 2001.
46. "Ordinal Association Rules for Error Identification in Data Sets", at the 10th International Conference on Information and Knowledge Management (CIKM'01) Atlanta, GA, November 5-10 2001.
47. "Automated Data Cleansing", at the MAS IV – Military Personnel Research Science Workshop, Memphis, TN, June 4, 2001.
48. "A System for Visualizing Object Oriented Software Systems in Virtual Reality", at the 9th International Workshop on Program Comprehension (IWPC'01), Toronto, Ontario, May 12-13, 2001.
49. "Visualizing Software in an Immersive Virtual Reality Environment", at the ICSE'01 Workshop on Software Visualization, Toronto, Ontario, May 13-14th, 2001
50. "Incorporation PSP into a Traditional Software Engineering Course: An Experience Report", at the Conference on Software Engineering Education & Training (CSEE&T'01), Charlotte, NC, February 19-21, 2001.
51. "Using Latent Semantic Analysis to Identify Similarities in Source Code to Support Program Understanding", at the 12th IEEE International Conference on Tools with Artificial Intelligence (ICTAI'00), Vancouver, British Columbia, November 13th-15th, 2000.
52. "Support for Software Maintenance Using Latent Semantic Analysis", at the 4th Annual IASTED International Conference Software Engineering and Applications (SEA'00), Las Vegas, Nevada, November 6th-9th, 2000.
53. "Data Cleansing: Beyond Integrity Checking" at The MIT Conference on Information Quality (IQ'00), Massachusetts Institute of Technology, Cambridge, October 20-22, 2000.
54. "Conclusions from the 1999 NSF & ONR Workshop on Data Visualization" at the National Science Foundation Information and Data Management Program Workshop, Chicago IL, March 7th, 2000.
55. "Automatic Software Clustering via Latent Semantic Analysis" at the 14th IEEE International Conference on Automated Software Engineering (ASE'99), Cocoa Beach, FL, Oct. 12-15th, 1999.
56. "Identification of Test Cases from Business Requirements of Software Systems", at the 5th Americas Conference on Information Systems (AMCIS'99), Milwaukee, WI, August 13-15, 1999.
57. "Decoding the Stepwise Refinement Process: Stepwise Refinement as a Problem Solving Activity", at the 19th Annual ACM Computer Science Conference, San Antonio, Texas, March 5-7, 1991.

Formal Tool Demonstrations

1. "iTrace: Eye Tracking Infrastructure for Development Environments", at the 10th ACM Symposium on Eye tracking Research and Applications (ETRA), Warsaw, Poland, June 14-17, 2018.

2. "srcSlice: A Tool for Efficient Static Forward Slicing", at the 38th ACM/IEEE International Conference on Software Engineering (ICSE) Tool Demonstrations Track, Austin, Texas USA, May 21, 2016.
3. "srcML: An Infrastructure for the Exploration, Analysis, and Manipulation of Source Code", at the 29th IEEE International Conference on Software Maintenance (ICSM) Eindhoven, The Netherlands, Sept. 25, 2013.
4. "MosaiCode: Visualizing Large Scale Software: A Tool Demonstration", at the IEEE International Workshop on Visualizing Software for Understanding and Analysis (VISSOFT), Williamsburg, VA, USA, Sept 31, 2011.
5. "difffact: Factoring Differences for Iterative Change Management", at the 6th IEEE International Workshop on Source Code Analysis and Manipulation (SCAM), Philadelphia, Pennsylvania USA, September 28, 2006.
6. "Source Viewer 3D (sv3D) A System for Visualizing Multi Dimensional Software Analysis Data", Research Demonstration at the 2nd IEEE Workshop of Visualizing Software for Understanding and Analysis (VISSOFT), Amsterdam, The Netherlands, September 22, 2003.
7. "sv3D - 3D Representations for Software Visualization", Research Demonstration at the ACM Symposium on Software Visualization (SoftVis), San Diego, CA, June 12, 2003.
8. "Comprehension of Software Analysis Data Using 3D Visualization", Research Demonstration at the IEEE International Workshop on Program Comprehension (IWPC), Portland, OR, May 10, 2003.
9. "Source Viewer 3D (sv3D) – A Framework for Software Visualization", Research Demonstration at the 25th ACM/IEEE International Conference on Software Engineering (ICSE), Portland, OR, May 8, 2003.

Invited Participation in Workshop, Working Session, or Panel Session

- The National Science Foundation CIRC PIs Meeting. November 6-7, 2023, Salt Lake City, UT.
- Evidence About Programmers for Programming Language Design, Dagsthul Seminar 18061, Germany, Feb. 4 - 9, 2018. *Invited event*. http://www.dagstuhl.de/en/program/calendar/semhp/?semnr=18061
- Mining & Modeling Unstructured Data in Software - Challenges for the Future, NII Shonan Meeting Seminar 084, Japan, March 6-10, 2016. *Invited event.* http://shonan.nii.ac.jp/seminar/084/
- Workshop on Text Analysis in Software Engineering (TAinSE), co-located with the ACM/IEEE International Conference on Software Engineering (ICSE), San Francisco, CA, May 18th, 2013. *Invited event with $1,100 Travel support*.
- Workshop on Text Analysis in Software Engineering, co-located with the ACM/IEEE International Conference on Software Engineering (ICSE), Zurich Switzerland, June 4th 2012. *Invited event.*
- Workshop on Concepts (WoC), Bergen Language Design Laboratory (BLDL), University of Bergen, Bergen Norway, November 5th, 2007. *Invited event fully supported and funded by BLDL.*
- Working Session: Comprehension and Maintenance of Large Scale Multi-Language Software Applications at the IEEE 22nd International Conference on Software Maintenance (ICSM), Philadelphia, Pennsylvania, September 27th, 2006. Organizers: K. Kontogianis, K. Wong, P. Linos. *Invited event.*
- The Center of Excellence for Traceability 1st Workshop on Grand Challenges in Traceability (GCW'06), sponsored by National Aeronautics and Space Administration (NASA) IV & V, Fairmont WV, August 4-5, 2006. Organizers: J. Hayes, A. Dekhtyar, J. Cleland-Huang. *Fully supported invited event funded by NASA*. 10 international participants.

Professional Service (external)

Journal Editorial Board

- Associate Editor, *IEEE Transactions on Software Engineering* (TSE) 6/2020-current
- Associate Editor, *Journal of Software: Evolution and Process* (JSEP) 10/2010-5/2019

Steering Committee

- ACM International Symposium on Software and Systems Traceability (SST) 6/2005-1/2023
- IEEE International Conference on Software Maintenance (ICSM) – *Elected* 9/2010-10/2013
- IEEE International Working Conference on Software Visualization (VISSOFT) 10/2012-10/2015
- IEEE Workshop on Visualizing Software for Understanding and Analysis (VISSOFT) 5/2006-10/2012
- IEEE International Conference on Program Comprehension (ICPC) – *Elected (Chair '07-'10)* 5/2005-6/2011
- ACM Symposium on Document Engineering (DocEng) 11/2002-10/2005

Organization

- **Co-Organizer** *Technical Briefing*: "srcML: Exploring, Analyzing, and Manipulating Source code", at the 39th International Conference on Software Maintenance & Evolution, Bogota, Columbia, Oct. 4, (90 min.) 2023
- **Co-Organizer** *Technical Briefing*: "srcML: Exploring, Analyzing, and Manipulating Source code", at the 45th International Conference on Software Engineering (ICSE), Melbourne, May 19, (90 min.) 2023
- **Co-Organizer** *Technology Briefing*: "Conducting Eye Tracking Studies in Software Engineering - Methodology and Pipeline", at the 45th International Conference on Software Engineering (ICSE), Melbourne, May 15, (180 min.) 2023
- **MIP Award Chair** IEEE 35th International Conference on Software Maintenance & Evolution (ICSME'22), Cyprus Oct. 3-7. *Most Influential Paper Award*. 2022
- **General Chair** IEEE 35th International Conference on Software Maintenance & Evolution (ICSME'19), Cleveland, Ohio, Sept 30 - Oct 4 2019
- **MIP Award Chair** IEEE Working Conference on Software Visualization (VISSOFT'18) Madrid, Spain Sept 24-25. *Most Influential Paper Award*. 2018
- **Program Chair** IEEE 24th International Conference on Program Comprehension (ICPC'16) Austin Texas, May 14-15 2016
- **Co-Organizer** *Technology Briefing*: "Exploration, Analysis, and Manipulation of Source Code using srcML", at the 37th International Conference on Software Engineering (ICSE), Florence, Italy, May 19th, (90 min.) 2015
- **Co-Organizer** *Technical Briefing*: "Exploration, Analysis, and Manipulation of Source Code using the srcML Infrastructure", at the 30th International Conference on Software Maintenance & Evolution (ICSME'14), Victoria, British Columbia, Canada, October 2-3 (50 min.) 2014
- **Program Chair** IEEE 28th International Conference on Software Maintenance (ICSM'12) Riva del Garda, Trento, Italy, September 23-30 2012
- **Co-Organizer** *Working Session*: "Using Eye-Tracking to Understand Program Comprehension" at the 16th IEEE International Conference on Program Comprehension (ICPC'09), Vancouver, BC, Canada, May 17-19 2009
- **Program Chair** IEEE 14th Working Conference on Reverse Engineering (WCRE'07) Vancouver, B.C., Canada, October 29-31 2007
- **Finance Chair** ACM/IEEE 22nd International Conference on Automated Software Engineering (ASE'07), Atlanta, Georgia Nov. 5-9 2007
- **Co-Organizer** ACM/IEEE 1st International Workshop on Empirical Assessment of Automated Software Engineering Language and Technologies (WEASELTech'07), Atlanta, Georgia Nov. 5 2007
- **Program Chair** IEEE 4th Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'07), Banff, Canada, June 25-26 2007
- **General Chair** ACM 3rd International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'05), Long Beach, CA November 8 2005
- **General Chair** IEEE 13th International Workshop on Program Comprehension (IWPC'05) St. Louis, Missouri, May 15-16 2005
- **Co-Organizer** IEEE 3rd Workshop on Visualizing Software for Understanding 2005

		and Analysis (VISSOFT'05), Budapest, Hungary, Sept. 25	
•	**Co-Organizer**	IEEE 2nd Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'03), Amsterdam, The Netherlands Sept. 22	2003
•	**Program Chair**	ACM Symposium on Document Engineering (DocEng'02) McLean, Virginia Nov. 8-9	2002
•	**Treasurer**	ACM Southeastern Michigan SIGART Local Chapter (SMART)	1/1996-3/1997

Conference Program Committee

2024
- IEEE 40th International Conference on Software Maintenance & Evolution (ICSME'24)
- ACM International Conference on the Foundations of Software Engineering (FSE'24) Tool Demonstrations Track
- ACM Eye Movements in Programming Workshop (EMIP'24)

2023
- IEEE/ACM 45th International Conference on Software Engineering (ICSE'23)
- IEEE 39th International Conference on Software Maintenance & Evolution (ICSME'23)
- IEEE 31st International Conference on Program Comprehension (ICPC'23)
- ACM 10th International Workshop of Eye Movements in Programming (EMIP'23)

2022
- IEEE 38th International Conference on Software Maintenance & Evolution (ICSME'22)
- IEEE 29th International Conference on Software Analysis, Evolution and Reengineering (SANER'22) ERA
- IEEE/ACM 1st ICSE Workshop on Designing and Running Project Based Courses in Software Engineering Education (DREE'22)

2021
- IEEE 37th International Conference on Software Maintenance & Evolution (ICSME'21)
- ACM 8th International Workshop of Eye Movements in Programming (EMIP'21)
- ACM Symposium on Eye Tracking Research & Applications (ETRA'21)
- 23rd Eurographics Conference on Visualization (EuroVis'21)

2020
- ACM Symposium on Eye Tracking Research & Applications (ETRA'20)
- IEEE International Working Conference on Source Code Analysis and Manipulation (SCAM'20) NEIR

2019
- ACM Symposium on Eye Tracking Research & Applications (ETRA'19)

2018
- IEEE 34th International Conference on Software Maintenance & Evolution (ICSME'18)
- International Workshop on Mining and Analyzing Interaction Histories (MAINT'18)
- 49th ACM Technical Symposium on Computer Science Education (SIGCSE'18)

2017
- IEEE 33rd International Conference on Software Maintenance & Evolution (ICSME'17)
- 48th ACM Technical Symposium on Computer Science Education (SIGCSE'17)

2016
- IEEE 32nd International Conference on Software Maintenance & Evolution (ICSME'16)
- IEEE International Working Conference on Software Visualization (VISSOFT'16)
- IEEE 16th International Working Conference on Source Code Analysis and Manipulation (SCAM'16)
- ACM/IEEE International Conference on Software Engineering - Student Contest on Software Engineering (SCORE'16)
- IEEE 22nd International Conference on Software Analysis, Evolution, and Reengineering (SANER'16)

2015
- IEEE 31st International Conference on Software Maintenance & Evolution (ICSME'15) – *ERA Track*
- ACM/IEEE 37th International Conference on Software Engineering (ICSE'15) – *Review Committee*
- IEEE 23rd International Conference on Program Comprehension (ICPC'15)
- ACM 8th International Symposium on Software and Systems Traceability (SST'15)
- IEEE International Working Conference on Software Visualization (VISSOFT'15)

2014
- ACM/IEEE 36th International Conference on Software Engineering (ICSE'14) – *Review Committee*
- IEEE International Working Conference on Software Visualization (VISSOFT'14)
- IEEE 30th International Conference on Software Maintenance & Evolution (ICSME'14) – *ERA Track*

- IEEE CSMR-WCRE 2014, the European Conference on Software Maintenance (CSMR'14) and the International Working Conference on Reverse Engineering (WCRE'14)

2013
- IEEE 29th International Conference on Software Maintenance (ICSM'13)
- IEEE 21st International Conference on Program Comprehension (ICPC'13)
- ACM International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'13)
- IEEE International Working Conference on Software Visualization (VISSOFT'13)
- IEEE 20th Working Conference on Reverse Engineering (WCRE'13)

2012
- ACM/IEEE 27th International Conference on Automated Software Engineering (ASE'12) -*attended PC meeting*
- IEEE 19th Working Conference on Reverse Engineering (WCRE'12)

2011
- ACM/IEEE 26th International Conference on Automated Software Engineering (ASE'11) -*attended PC meeting*
- IEEE 27th International Conference on Software Maintenance (ICSM'11)
- IEEE 27th International Conference on Software Maintenance (ICSM'11) -*Industrial Track*
- ACM/IEEE 33rd International Conference on Software Engineering (ICSE'11) -*Research Demonstrations Track*
- IEEE 19th International Conference on Program Comprehension (ICPC'11)
- IEEE 11th International Working Conference on Source Code Analysis and Manipulation (SCAM '11)
- IEEE 6th Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'11)
- ACM 5th International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'11)
- IEEE 18th Working Conference on Reverse Engineering (WCRE'11)

2010
- ACM/IEEE 25th International Conference on Automated Software Engineering (ASE'10) -*Expert Review Panel*
- IEEE 18th International Conference on Program Comprehension (ICPC'10)
- IEEE 26th International Conference on Software Maintenance (ICSM'10)
- ACM 5th Symposium on Software Visualization (SoftVis'10)
- IEEE 17th Working Conference on Reverse Engineering (WCRE'10)
- IEEE 6th International Conference on Predictive Models in Software Engineering (PROMISE'10)

2009
- ACM/IEEE 24th International Conference on Automated Software Engineering (ASE'09) -*attended PC meeting*
- IEEE 25th International Conference on Software Maintenance (ICSM'09)
- IEEE 17th International Conference on Program Comprehension (ICPC'09)
- ACM/IEEE 31st International Conference on Software Engineering (ICSE'09) -*Research Demonstrations Track*
- IEEE 16th Working Conference on Reverse Engineering (WCRE'09)
- ACM 6th Workshop on Mining Software Repositories (MSR'09)
- ACM 4th International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE'09)
- IEEE 5th Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'09)
- IEEE 12th International Workshop on Principles of Software Evolution (IWPSE'09)

2008
- ACM/IEEE 23rd International Conference on Automated Software Engineering (ASE'08) -*attended PC meeting*
- IEEE 16th International Conference on Program Comprehension (ICPC'08)
- ACM 5th Workshop on Mining Software Repositories (MSR'08)
- ACM 4th Symposium on Software Visualization (SoftVis'08)
- IEEE 15th Working Conference on Reverse Engineering (WCRE'08)

2007
- ACM/IEEE 22nd International Conference on Automated Software Engineering (ASE'07) -*attended PC meeting*
- IEEE 23rd International Conference on Software Maintenance (ICSM'07)
- IEEE 15th International Conference on Program Comprehension (ICPC'07)
- IEEE 10th International Workshop on Principles of Software Evolution (IWPSE'07)
- ACM 4th Workshop on Mining Software Repositories (MSR'07)

2006
- ACM/IEEE 21st International Conference on Automated Software Engineering (ASE'06) -*attended PC meeting*
- IEEE 14th International Conference on Program Comprehension (ICPC'06)
- IEEE 22nd International Conference on Software Maintenance (ICSM'06)
- IEEE 13th Working Conference on Reverse Engineering (WCRE'06)
- ACM 3rd Symposium on Software Visualization (SoftVis'06)
- ACM 3rd Workshop on Mining Software Repositories (MSR'06)

2005
- ACM/IEEE 20th International Conference on Automated Software Engineering (ASE'05)

- IEEE 21st International Conference on Software Maintenance (ICSM'05)
- IEEE 12th Working Conference on Reverse Engineering (WCRE'05)
- IEEE 8th International Workshop on Principles of Software Evolution (IWPSE'05)
- ACM/IEEE 8th International Conference on Model Driven Engineering Languages and Systems (MoDELS'05)
- ACM 20th Conf. on Object-Oriented Prog. Systems, Lang., and Apps. (OOPSLA'05) - *Onward! Committee*
- ACM 2nd Symposium on Software Visualization (SoftVis'05)

2004
- ACM/IEEE 19th International Conference on Automated Software Engineering (ASE'04) - *attended PC meeting*
- IEEE 7th International Workshop on Principles of Software Evolution (IWPSE'04)
- IEEE 12th International Workshop on Program Comprehension (IWPC'04)
- IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC'04)
- ACM Symposium on Document Engineering (DocEng'04)
- ACM International Conference on Design of Communication (SIGDOC'04)

2003-2001
- ACM Symposium on Document Engineering (DocEng'03)
- IEEE 11th International Workshop on Program Comprehension (IWPC'03)
- IEEE Workshop on Visualizing Software for Understanding and Analysis (VISSOFT'02)
- ACM Symposium on Document Engineering (DocEng'01)

Journal Reviewer

IEEE Transactions on Software Engineering, *ACM Transactions on Software Engineering and Methodologies, Journal of Empirical Software Engineering*, *Automated Software Engineering Journal, Journal of Software Maintenance and Evolution, Journal of Systems and Software, Software Quality Journal*, *IEEE Software, IEEE Computer*

Textbook Reviewer
- CRC Press, McGraw-Hill, Addison-Wesley Longman Publishers, Scott/Jones, Inc. Publishers, Kluwer Academic Publisher
- Henry, J., *Software Project Management A Real-World Guide to Success*, Addison-Wesley, 2004. Acknowledged as a reviewer on page xiv.

Session Chair
- WCRE'12 Reverse Engineering II
- VISSOFT'11 Session 3: Program Dependencies
- ICSM'10 Research Session 18 – Quality
- ICPC'10 Technical Session VI – Software and System Structure
- ICSM'09 Research Session 12: Concept and Traceability Recovery
- VISSOFT'09 Session IV: Full Papers II
- ICSE'09 Formal Research Demonstrations: Software Development Assistance
- ICPC'09 Session: Visualization and Sonification
- ICPC'08, Session 3: Program Comprehension Studies
- ASE'07, Session 9: Traceability
- ICSM'07, Session 13: Reverse Engineering
- MSR'05, Session 5: Integration and Collaboration
- SET'04, Session 3: Software Transformation
- ICSM'04, T3: Program Comprehension
- IWPC'03, Short Papers 1
- DocEng'01, Document Analysis and Retrieval
- SEA'00, Software Economics, Development, and Maintenance

Grant Proposal Reviewer & Panelist
- Swiss National Science Foundation (SNSF) – 1 proposal 2020
- National Science Foundation (NSF) – CISE Review Panelist 2018
- Québec-Flanders Bilateral Research Cooperation Program 2015
- National Science Foundation (NSF) – CISE Review Panelist 2013
- Natural Sciences and Engineering Research Council of Canada (NSERC) – 2 proposals 2012
- National Science Foundation (NSF) – CISE Review Panelist 2011
- National Science Foundation (NSF) – CISE Review Panelist 2010
- Netherlands Organisation for Scientific Research – 1 proposal 2009

- Swiss National Science Foundation (SNSF) – 2 proposals 2009
- National Science Foundation (NSF) – CISE Review Panelist 2008
- National Science Foundation (NSF) – CISE Review Panelist (Two Panels) 2004
- National Science Foundation (NSF) – CISE Review Panelist 2003
- National Aeronautics and Space Administration (NASA) 2001

Program & Position Evaluation (site visit)
- Montclair University, Computer Science Department, External Program Reviewer 2010
- Miami University, Department of Computer and System Analysis, External Program Reviewer 2006
- Concordia University, Montreal, Canada Research Chair Evaluation Committee 2005

Meeting Attendance and/or Service (not noted elsewhere)
- TSE Editorial Board Meeting, Melbourne, Australia, May 2023
- JSEP Editorial Board Meeting, Austin TX May, 2016
- ACM/IEEE International Conference on Software Engineering (ICSE) 2013
- ACM/IEEE International Conference on Software Engineering (ICSE) 2012
- ACM/IEEE International Conference on Software Engineering (ICSE) 2009
- IEEE International Conference on Program Comprehension (ICPC) 2006
- ACM/IEEE International Conference on Automated Software Engineering (ASE) 2005
- ACM/IEEE International Conference on Software Engineering (ICSE) 2005
- ACM/IEEE International Conference on Software Engineering (ICSE) 2004
- Technical Council on Software Engineering (TCSE) – attended meeting on 5/19/2005 to advocate name change for IWPC to ICPC. Motion passed with full support of council.
- ACM Technical Symposium on Computer Science Education SIGCSE 2002

Graduate Student Mentoring

Doctoral Students (completed)

22. Salwa Aljehane, August 2022, Kent State University
    - *Eye Movements Characterizing for the Assessment of Expertise in Source Code Reading*
    - Assistant Professor, University of Tabuk, Saudi Arabia
21. Reem AlSuhaibani, May 2022, Kent State University
    - *A Comprehensive Examination of Factors for Assessing the Quality of Method Names in Source Code*
    - Assistant Professor, Prince Sultan University, Riyadh, Saudi Arabia
20. Naser Al Madi, August 2020, Kent State University
    - *Modeling Eye Movement Control for the Assessment of Programming Proficiency*
    - Assistant Professor, Colby College, Waterville, Maine
19. Basma Alqadi, August 2020, Kent State University
    - *Slice-Based Cognitive Complexity Metrics for Defect Prediction*
    - Assistant Professor, Imam Muhammad Ibn Saud University, Riyadh Saudi Arabia
18. Brian Bartman, August 2017, Kent State University
    - *Supporting Software Exploration with a Syntactic Aware Source Code Query Language*
    - Software Engineer, Lock3 Software Inc., Kent, Ohio
17. Michael Decker, August 2017, Kent State University
    - *srcdiff: Syntactic Differencing to Support Software Maintenance and Evolution*
    - Assistant Professor, Bowling Green State University, Ohio
    - Awarded NSF funding in 2023
16. Christian Newman, August 2017, Kent State University
    - *A Source Code Transformation Language to Support Software Evolution*
    - Assistant Professor, Rochester Institute of Technology, NY
    - Awarded NSF funding in 2019
15. Nahla Abid, May 2017, Kent State University
    - *Automatic Generation and Assessment of Source-code Method Summaries*
    - Assistant Professor, Taibah University, Medina, Saudi Arabia
14. Abrar Fawwaz AlAbed-AlHaq, December 2015, Kent State University
    - *Applying Graph Mining Techniques to Solve Complex Software Engineering Problems*
    - Assistant Professor, Yarmouk University, Jordan
13. Saleh Alnaeli, May 2015, Kent State University
    - *Empirically Examining the Roadblocks to the Automatic Parallelization and Analysis of Open Source Software Systems*
    - Assistant Professor, University of Wisconsin-Stout, Menomonie
12. Gregory DeLozier, August 2014, Kent State University
    - *Feature Location Using Unit Test Coverage In An Agile Development Environment*
    - Domain Architect for Enterprise Software Tools, Progressive Inc., Cleveland Ohio
11. Abdulkareem Q. Alali, August 2014, Kent State University
    - *Improved Methods for Mining Software Repositories to Detect Evolutionary Couplings*
    - Programmer Analyst, Financial Investments, Seattle
10. Omar Meqdadi, August 2013, Kent State University
    - *Understanding And Identifying Large-Scale Adaptive Changes From Version Histories*
    - Associate Professor, Jordan University of Science and Technology, Jordan
9. Nouh Alhindawi, August 2013, Kent State University
    - *Supporting Source Code Comprehension During Software Evolution And Maintenance*
    - Associate Professor, Jadara University, Jordan
8. Hakam Alomari, August 2012, Kent State University
    - *Supporting Software Engineering via Lightweight Static Program Slicing*
    - Assistant Professor, Miami University, Oxford Ohio
7. Natalia Dragan, December 2010, Kent State University
    - *The Emergent Laws of Method and Class Stereotypes in Object Oriented Software*
    - Assistant Professor NTT, Management and Information Systems, Kent State University
6. Andrew Sutton, August 2010, Kent State University
    - *Understanding and Maintaining C++ Generic Libraries*
    - Principle Lock3 Software Inc., Kent, Ohio
    - Assistant Professor, University of Akron, Ohio (2014 - 2019)
    - Postdoctoral Fellow, Texas A&M, Supervisor: Bjarne Stroustrup (2010 – 2013)
    - Awarded NSF funding in 2014

5. Maen Hammad, May 2010, Kent State University
   - *Supporting Code-Design Consistency During Software Evolution*
   - Professor, Hashemite University, Jordan
4. Bonita (Simoes) Sharif, May 2010, Kent State University
   - *Empirical Assessment of UML Class Diagram Layout Based on Architectural Importance*
   - Associate Professor, University of Nebraska - Lincoln
   - Awarded NSF CAREER in 2016
3. Huzefa Kagdi, August 2008, Kent State University
   - *Mining Software Repositories to Support Software Evolution*
   - Professor & Chair, Florida Gulf Coast University
   - Awarded NSF funding 2010
2. Michael L. Collard, August 2004, Kent State University
   - *Meta-Differencing: An Infrastructure for Source Code Difference Analysis*
   - Associate Professor, University of Akron, Ohio
   - Awarded NSF funding in 2013
1. Adrian Marcus, August 2003, Kent State University
   - *Semantic Driven Program Analysis*
   - Professor, George Mason University
   - Awarded NSF CAREER in 2009
   - Awarded "Best Ph.D. Dissertation Paper" at the 20th IEEE International Conference on Software Maintenance (ICSM'04), Chicago, Illinois, Sept. 11-14, 2004, pp. 469-473

Doctoral Students (current)
1. Joshua Behler, Completed Preliminary Exams
2. Drew Guarnera, Completed Preliminary Exams, Candidacy, & Prospectus
3. Ali Al Ramadan, Completed Preliminary Exams
4. Screen Banabilah, Completed Preliminary Exams

Doctoral Committee Member (current)
1. Julina Maharjan, Advisor: Ruoming Jin

Doctoral Committee Member (completed)
1. Alexander Bongiovanni, Department of Mathematical Sciences, Kent State University, Graduated: 5/2021. Advisor: Gang Yu. *Graduate Faculty Representative and Moderator*
2. Matthew Alexander, Department of Mathematical Sciences, Kent State University, Graduated: 5/2017. Advisor: Dr.Artem Zvavitch. *Graduate Faculty Representative and Moderator*
3. Mohammed Al Batineh, Department of Classical Language Studies, Kent State University, Graduated: 8/2015, Advisor: Dr. Francoise Massardier-Kenney
4. John Hoffman, Department of Mathematical Sciences, Kent State University, Graduated: 8/2014, Advisor: Dr. Yu Gang
5. Christopher D. Mellinger, Department of Classical Language Studies, Kent State University, Graduated: 5/2014, Advisor: Keiran Dunne, Gregory M. Shreve.
6. Theresa Benyo, Department of Physics, Kent State University, Graduated: 5/2013. Advisors: Dr. David Allender and Dr. Isaiah Blankson (NASA). *Graduate Faculty Representative and Moderator*
7. Jamal Alsakran, Department of Computer Science, Kent State University, Graduated 8/2012, Advisor: Dr. Y. Zhao
8. Nina Rytwinski, Department of Psychology, Kent State University, Graduated: 5/2010. Committee: Dr. Jocelyn Folk, Dr. David Fresco, Dr. Jeffrey Ciesla
9. Valentin David, Language Design Laboratory, Universitetet i Bergen, Bergen Norway, Dissertation Defense November 2009, Graduated 12/2009. Advisor: Dr. Magne Haveraaen. *External Opponent* with Dr. Bjarne Stroustrup
10. Saleh Al-shomrani, Department of Computer Science, Kent State University, Graduated: 12/2008, Advisor: Dr. P. Wang
11. Denys Poshyvanyk, Department of Computer Science, Wayne State University, Detroit MI, Graduated: 5/2008, Assistant Professor, College of William & Mary, Advisor: Dr. Andrian Marcus
12. Oleg Komogortsev, Department of Computer Science, Kent State University, Graduated 8/2007, Assistant Professor, Texas State University, Advisor: Dr. J. Khan
13. Congjun Yang, Department of Computer Science, University of Memphis, Graduated: 5/2001, FedEx, Advisor: Dr. K.I. Lin

14. Yuan Gao, Department of Computer Science, University of Memphis, Graduated: 5/2000, Advisor: Dr. G. Narasiman
15. German Hernandez, Department of Computer Science, University of Memphis, Graduated: 5/2000, Professor University of Columbia, Bogotá, Advisor: Dr. D. Dasgupta
16. Myles Bogner, Department of Computer Science, University of Memphis, Graduated: 12/1999, Advisor: Dr. S. Franklin
17. David Vu, Department of Computer Science, University of Memphis, Graduated: 12/1999, FedEx, Advisor: Dr. G. Das

Masters Thesis Students (completed)

1. Joshua Behler, *Assessing Python Bindings of C Libraries with Respect to Python Idiomatic Conformance*, Kent State University, Graduated December 2023
2. Zane Doleh, *Stereocode: A Tool for Automatic Identification of Method Stereotypes*, Kent State University, Graduated December 2021
3. Corey Bryant, *iTrace: An Infrastructure to Support Eye-Tracking Studies in Integrated Development Environments*, Kent State University, Graduated August 2021
4. David Selinger, *Designing a Cybersecurity Education Curriculum using Gamification Principles*, Kent State University, Graduated December 2019. *Co-advisor with Kambiz Ghazinour (lead)*
5. Reem AlSuhaibani, *Part-of-Speech Tagging of Source Code Identifiers Using Programming Language Context Versus Natural Language Context*, Kent State University, Graduated December 2015
6. Christian Newman, *Normalizing-Refactorings: Simplifying the Construction of Source Code Transformations*, Kent State University, Graduated December 2013
7. Brian Bartman, *srcQL: A Syntax-Aware Query Language for Exploring Source Code*, Kent State University, Graduated December 2013
8. Daniel Mosora, *Mosaicode: Supporting Software Evolution via Visual Exploration of Multidimensional Versioned Data*, Kent State University, Graduated December 2013
9. Ryan Holeman*, Identifying Programming Idioms in C++ Generic Libraries*, Kent State University, Graduated December 2009
10. Alice Lewis, *A Case Study for a Lightweight Impact Analysis Tool*, Kent State University, Graduated May 2009
11. Abdulkareem Q. Alali, *An Empirical Characterization of Commits In Software Repositories*, M.S. Thesis, Kent State University, Kent, Ohio, Graduated May 2008
12. Shehnaaz Yusuf, *Assessing the Comprehension of UML Class Diagrams via Eye Tracking*, M.S. Thesis, Kent State University, Kent, Ohio, Graduated December 2007
13. Natalia Dragan, *Method Stereotypes and their Automatic Identification*, M.S. Thesis, Kent State University, Kent, Ohio, Graduated December 2005
14. Andrew Sutton, *Accurately Reverse Engineering UML Class Models from C++*, M.S. Thesis, Kent State University, Kent, Ohio, Graduated August 2005
15. Louis Feng, *Source Viewer 3D – An Application Framework for Software Visualization*, M.S. Thesis, Kent State University, Kent, Ohio, Graduated August 2003, Completed Ph.D. in graphics at UC-Davis
16. Huzefa Kagdi, *Using an Island Grammar Approach for Lightweight Parsing: A C++ to srcML Translator*, M.S. Thesis, Kent State University, Kent, Ohio, Graduated May 2003
17. Greg Dunlap, *Visualizing Object Oriented Software in a Virtual Reality Environment*, M.S. Thesis, The University of Memphis, Memphis, TN, Graduated December, 2001
18. Bradford Smith, *Combining Gene Splicing and Genetic Algorithms*, M.S. Thesis, The University of Memphis, Memphis, TN, Graduated May 1999

Masters Thesis Students (current)

1. Mitch Jacovetty

Masters Students (non-Thesis)

1. Anita Howald, University of Memphis, Graduated: 5/2002
2. Elizabeth Brooks, University of Memphis, Graduated: 12/2001
3. Andrian Marcus, University of Memphis, Graduated: 5/2001
4. Tony Colston, University of Memphis, Graduated: 12/2000
5. Zhijun Liu, University of Memphis, Graduated: 8/2000
6. Ravi Seetharam, University of Memphis, Graduated: 12/1999
7. Naveen Valluri, University of Memphis, Graduated: 5/1999
8. Sudarshan Dhrarmapuri, University of Memphis, Graduated: 5/1999

Masters Thesis Committee Member
- Muhammad Mohzary, Kent State University, Graduated 8/2018
- Srikanth Tadisetty, Kent State University, Graduated 8/2018
- Amanda Lindsay, Kent State University, Graduated 5/2014
- YuFan Liu, Kent State University, Graduated 5/2013
- Mayank Ladoia, Kent State University, Graduated: 8/2012
- Scott McCallen, Kent State University, Graduated: 12/2007
- David Watson, Kent State University, Graduated: 12/2004
- Irina Makkaveeva, University of Memphis, Graduated: 8/2000
- Sudipkumar Karnavat, University of Memphis, Graduated: 12/1998, Oracle Inc.
- Myles Bogner, University of Memphis, Graduated: 5/1998
- Elko Tchernev, University of Memphis, Graduated: 5/1998
- Yuan Gao, University of Memphis, Graduated: 5/1998, IBM

Undergraduate Student Mentoring

Undergraduate Honors Thesis Directed
- P. J. Leyden, *Rendering UML Class Diagrams to Support Layout Design*, Kent State University, Graduated 12/2019
- Daniel Mosora, *Towards a Quantitative Evaluation of Layout Using Graphic Design Principles*, Kent State University, Graduated: 5/2012
- Dylan Shearer, *A Tool and Technique for Enforcing Constraints Between Documentary Comments and Source Code*, Kent State University, Graduated: 5/2007 – *co-directed with Dr. M. Collard (lead)*

NSF Research Experiences for Undergraduates (REU)
- Mitch Jacovetty, (srcML) Fall 2023
- Nicholas Weber, (srcML) Summer 2023
- Parker Higgins, Kent State University, (srcML) Summer 2022, Summer 2023
- Joshua Behler, Kent State University, (iTrace) Summer 2020
- Praxis (Gabriel) Weston, Kent State University, (iTrace) Summer 2020
- Vlas Zyrianov, Kent State University, (iTrace) Fall 2018, Spring 2019
- PJ Leydon, Kent State University, (iTrace) Summer 2019
- Zachary Buchanan, Kent State University, (iTrace) Summer 2018
- PJ Leydon, Kent State University, (srcML) Summer 2016
- Kyle Swartz, Kent State University, (srcML) Spring 2016
- Tessandra Sage, Kent State University, (srcML) Fall 2014
- Daniel Mosora, Kent State University, (TraceLab) Summer 2011
- Christian Newman, Kent State University, (TraceLab) Summer 2010

Undergraduate Independent Study or Research
Kent State University
- Parker Higgins, Spring 2022
- Nicholas Weber, Spring 2022, Fall 2022
- Michael Andrew Hayworth, Fall 2020, Spring 2021, Fall 2021, Spring 2022
- Joshua Behler, Fall 2020, Spring 2021, Fall 2021
- Praxis (Gabriel) Weston, Fall 2020, Spring 2021, Fall 2021
- Zachary Buchanan, Fall 2018, Spring 2019
- P.J. Leyden, Fall 2016, Spring 2017, Spring 2019
- Vlas Zyrianov, Spring 2017, SURE Summer 2017, Spring 2018
- Patrica Jordan, Spring 2017
- Logan Baker, Fall 2018
- Mitchell Fulton, Spring 2018
- Daniel Bevilacqua, Spring 2018
- Michael Garlak, Spring 2018
- Abdel-Hakeem Badran, Spring 2018, Fall 2018
- Thomas Taylor, Summer 2015
- Kyle Swartz, Spring 2015

- Ben Freeman, Spring 2015
- Tessandra Sage, Fall 2014, Spring 2015
- Yasmine Sadid, Fall 2012
- David Steinberg, Spring 2012
- Thomas Mullaly, Spring 2010
- Richard Hildebrand, Spring 2010
- Brian Bartman, Fall 2009
- Michael Lopez, Fall 2009
- Matthew Suhay, Summer 2009
- Edward Morrison, Spring 2009
- Christopher Tuttle, Spring 2009
- Rodney Johnston, Fall 2006
- Kyle Stemen, Fall 2004
- James Brundage, Fall 2004
- Howard Bandy, Spring 2003
- Robert Beck, Fall 2002

The University of Memphis

- Corey Donahoe, Spring 2003
- Leslie Saputra, Fall 2001
- Greg Dunlap, Spring 2000
- Michael Muellenmeister, Spring 2000
- Anastasia Nix, Spring 1999
- Scott Brown, Spring 1999
- George Eivazzadeh, Summer 1998

Wayne State University

- William L. Kilpatrick, Spring 1998
- Christopher Gallivan, Spring 1997

Visiting Scholar, Internship, Work Study, Foreign Exchange

- Dr. Tie Feng, Jilin University China, 10/2005-9/2006, Supported by the China Scholarship Council
- Dr. Shu-Guang Zhang, Wuhan University, China, 01/2007-12/2007, Supported by the China Scholarship Council
- Dilara Tara Sahintepe, Bilkent University, Turkey, Summer 2012

Teaching

Teaching Interests
Introductory Programming (CS I & CS II) and Software Engineering (graduate and undergraduate)

Teaching Statement/Philosophy
The philosophies and methods of teaching must always evolve as new experiences are realized. This implies continual process improvement. The basis of this process is focused on the following:

1) Difficulty of the material;
2) Academic standards;
3) Fairness to the student;
4) Enjoyable learning.

Enthusiasm on the part of the instructor is an excellent way to make a course (and learning) more enjoyable for the student. Past experiences, both in teaching and taking courses have proven this to be an excellent method in motivating and keeping the attention of students.

Lecture emphasizes that subjects covered in individual courses are tightly coupled with the entire curriculum. All too often, students are left without an understanding of how separate topics fit together and how they relate to the work place (or research). A broad knowledge of computer science coupled with industry experience is utilized to better explain these issues. However, a number of topics are very hard for students to master. Repetitive exposure and explanation, along with varying perspectives and analogies are systematically used to convey an understanding of the material. A question/answer dialog is consistently and constantly made available to the students to gage the overall level of understanding of the students and pace of the course.

One of the responsibilities of college professor is to uphold the standards of the discipline and society. While it has been said that the responsibility of the teacher is to the student, the foremost responsibility of the teacher is to educate the student to function in society and the field to an adequate degree of competency. To promote fairness, all expected requirements are presented at the beginning of any course. The level of the professor's expectations is presented up front, and repeatedly throughout the term. All reference material is made available and the importance of each reference is well defined. Given a well defined set of course objectives, along with the support to achieve those objectives, the student has a level playing field and can be fairly assesses.

Undergraduate Teaching Experience

Course Title	Term Taught	Institution
Undergraduate Upper Division		
Capstone Project (CS49901)	Fall 04	KSU
Software Engineering (CS33901)	Fall, 20, Spr 20	KSU
Software Engineering (U/G) (CS5/43901)	Spr 10, Spr 03, Spr 02	KSU
Software Development (U/G) (COMP6/4081)	Spr 99, Spr 98	Memphis
Data Communications (U/G) (COMP6/4310)	Fall 97	Memphis
Operating Systems (U/G) (COMP6/4270)	Fall 98, Fall 97	Memphis
Software Engineering (CSC411)	Sum 97, Win 97, Sum 96	WSU
Operating Systems (CSC442)	Win 97, Fall 96	WSU
Theory of Computation (CSC450)	Sum 97, Win 97, Fall 96, Sum 96, Win 96, Fall 95	WSU
Programming Languages (U/G) (CSC520)	Fall 92	WSU
Undergraduate Lower Division		
Computer Science II: (C++) Data Structures & Abstraction (CS23001/33001)	Spr 24, Fall 23, Spr 23, Fall 22, Spr 22, Fall 21, Spr 21, Fall 19, Spr 19, Fall 18, Spr 18, Fall 17, Fall 16, Spr 16, Fall 15, Spr 15, Fall 14, Spr 14, Fall 13, Spr 13, Fall 12, Spr 12, Fall 11, Spr 11, Fall 10, Spr 10, Fall 09, Fall 08, Spr 08, Spr 07, Fall 02, Fall 01	KSU
Computer Science II (C++) (COMP2150)	Spr 01, Fall 00, Spr 00, Fall 99	Memphis
Computer Science II (CSC211/203)	Fall 96 (C++), Fall 95 (C++), Win 90 (Pascal), Fall 89 (Pascal), Sum 89 (Pascal), Fall 88 (Pascal)	WSU
Computer Science I (CSC102/110)	Win 96 (C++), Win 97(C++), Win 93 (C), Win 89 (Pascal)	WSU
Computer Literacy (COMP1200)	Spr 98	Memphis
Forth Programming Language (CSC286)	Fall 86	UM-Flint
Lisp Programming Language (CSC286)	Win 87	UM-Flint
Introduction to FORTRAN (CSC274)	Sum 87, Win 87, Fall 86	UM-Flint

Graduate Teaching Experience

Course Title	Term Taught	Institution
Graduate		
Software Engineering Methods (CS6/73901)	Spr 19, Spr 13, Fall 07, Fall 06, Fall 05, Fall 03, Fall 02	KSU
Software Evolution (CS6/73902)	Spr 20, Spr 18, Spr16, Spr 12, Spr 04	KSU
Software Visualization (CS6/73903)	Spr 05, Spr 03	KSU
ST: Text Analysis in Software Eng (CS6/79995)	Spr 14	KSU
ST: Program Comprehension (CS6/79995)	Spr 15, Spr 08	KSU
Masters & Doctoral Seminar (CS6/89191)	Spr 06, Sum 04	KSU
Software Process Models (COMP8/7081)	Fall 00, Fall 99	Memphis
Software Development (COMP8/7083)	Spr 00	Memphis
ST: Psychology of Programming (COMP8/7991)	Spr 01	Memphis
ST: Software Testing (COMP8/7998)	Spr 99	Memphis
ST: Software Reuse (COMP8/7992)	Fall 98	Memphis
Other		
OO Programming and Adv. C++ (6 weeks)	Sum 97	Brother Inc.
LISP/CLOS Programming (1 week intensive)	Sept. 95	Ford Motor Co.

Course & Curriculum Development

Kent State University
New **Course Development & Teaching**

- CS6/79995 ST: Text Analysis in Software Engineering – 2013/014. Developed content and description for the course as part of a Software Engineering major concentration within our graduate curriculum. Offered as special topics during Spring 2014. http://www.cs.kent.edu/~jmaletic/cs69995-TAinSE/
- CS23001 Laboratory – 2011/12. Developed materials, topics, and assignments for new laboratory component of the course for first offering in Fall 2011. Developed all materials, topics, and assignments for labs. Revised lecture materials to reflect lab component. www.cs.kent.edu/~jmaletic/CS23001/
- CS6/79995 ST: Program Comprehension – 2007/08. Developed content and description for the course as part of a Software Engineering major concentration within our graduate curriculum. Offered as special topics during Spring 2008. www.cs.kent.edu/~jmaletic/Prog-Comp/
- CS49901 Capstone – 2004. Developed content and description, in conjunction with CC, for this new course as a part of the revised undergraduate curriculum. Taught first offering of course in Fall 2004 - see www.cs.kent.edu/~jmaletic/Capstone/
- CS6/73903 Software Evolution – 2003/4. Developed content and description for this course as a part of a Software Engineering Major Concentration within our graduate curriculum. Offered course as a Special Topics during Spring 2004. www.cs.kent.edu/~jmaletic/cs63902/
- CS6/73902 Software Visualization – 2002/03. Developed content and description for this course as a part of a Software Engineering Major Concentration within our graduate curriculum. Offered course as a Special Topics during Spring 2003. www.cs.kent.edu/~jmaletic/cs63903/

Course Development & Revision

- CS23001 CS II: Data Structures & Abstraction – Spring 2021, Fall 2021. Developed 1000+ new detailed slides and additional course material for online synchronous delivery during pandemic.
- CS33901 Software Engineering – Fall 2020. Updated slides and course material for online synchronous delivery during pandemic.
- CS23001 CS II: Data Structures & Abstraction – Spring 2014. Introduced and trialed the use of a Question & Answer system (segfault.cs.kent.edu) into the course to support student questions for projects and course materials. Continued use of Q&A system in Fall 2014 using Piazza.
- CS23001 CS II: Data Structures & Abstraction – Fall 2011. Revised lecture materials to reflect lab component. Integrated concepts of test driven development (TDD) into CS II: Data Structures & Abstraction lecture, lab, and assignments. A software framework and build facility was developed and is used by students to test their programming projects in an iterative process. A set of test oracles was developed to assist students for one of the projects. Students learn to develop test cases prior to solving problems. This aligns with the new ACM/ IEEE recommendations. www.cs.kent.edu/~jmaletic/CS23001/
- CS4/53901 Software Engineering – Spring 03. A complete revision of the course made including a new catalog description. New textbooks examined and a detailed syllabus developed so the course better fits into the new undergraduate catalog. The course is focused on object oriented design and programming. The course went from an elective to a required course in the curriculum. www.cs.kent.edu/~jmaletic/cs43901/
- CS6/73901 Software Engineering Methodologies (previously Advanced Software Engineering) – Fall 2002. A complete revision of this course made including new name and catalog description. www.cs.kent.edu/~jmaletic/cs63901/
- CS33001 Data Structures – Fall 2002. The content of the core course revised, standardized, and aligned with its prerequisites. A new textbook selected under my guidance that better supports our program and students. Additionally, a course web page was developed that detailed the course and assignments and is intended as a model/resource for others to teach the course. Changes to the course were made in conjunction with the Curriculum Committee and others who teach it regularly.
- CS23022 Discrete Structures for Computer Science – Fall 2002. Worked with Dr. Dragan, Dr. Lu, and CC to develop a new course to replace CS/MATH31011 Discrete Mathematics. Course content and description developed.
- CS23021 Introduction to Object Oriented Programming – Spring 2001. The content of the course revised and standardized to fit with its prerequisites and the follow on course, Data Structures. Changes to the course made in conjunction with the Curriculum Committee and others who teach it regularly.

Undergraduate Curriculum Development

- An integral member of the Curriculum Committee during the 2001/02 academic year, a substantial re-design of the Computer Science undergraduate curriculum was made. Changes made to align the Department's curriculum with those of the 2001 ACM Computer Science Curriculum Guidelines. Changes included the following new course: CS49901 Capstone – developed content and description for this course as a part of the new undergraduate curriculum. Done in conjunction with the Curriculum Committee.

Graduate Curriculum Development

- Chair of Joint Committee (Graduate Studies and Curriculum Committees) to Examine the Graduate Curriculum for 2002/03. This committee assessed the current state of the Department's graduate curriculum and discussed problem and possible solutions about the program with faculty and graduate students. The committee developed and proposed a curriculum that represents a substantial departure from the old program. The new curriculum focuses on the support of all (and future) departmental research initiatives and facilitates the production of high quality, knowledgeable, graduate students.
- CS69198 Masters Seminar – developed content and description for this course as a part of the new graduate curriculum. This was done in conjunction with the Curriculum and Graduate Studies Committees.
- CS89198 Doctoral Seminar – developed content and description for this course as a part of the new graduate curriculum. This was done in conjunction with the Curriculum and Graduate Studies Committees.

The University of Memphis
Course and Curriculum Development

- Three new graduate courses in Software Engineering were developed and implemented over 1999-2001:
  - *COMP7/8085 Software Comprehension*. Description: Cognitive and mental models of how people learn to program and how people understand existing large software systems are covered. Software environments to assist software developers build, maintain, and evolve software systems are investigated. How visualization of software system aids in program comprehension is covered.

- *COMP7/8081 Software Development Process Models*. Description: Development processes; maturity models; process improvement, metrics (process and product), estimation, management, maintenance; quality assurance; personal and team software process models, UML.
- *COMP7/8083 Software Development Methodologies*. Description: Development methods for the support of process models; advanced object-oriented analysis and design methods; reuse, testing, adaptive software, software comprehension, understanding and environments.

- Developed and offered the following Special topics courses:
  - *COMP7/8992 Software Reuse*.
  - *COMP7/8998 Software Testing*.
  - *COMP7/8991 Psychology of Programming*

- New Curriculum Development
  - *Masters of Science in Electronic Commerce*. The University of Memphis. Member of the joint committee between College of Arts and Science and College of Business. Program accepted Fall 2000.
  - *Masters of Science in Software Development*. The University of Memphis. Development of initial proposal.

Departmental and University Service

Kent State University

2023/2024
- A&S College Advisory Committee (CAC) Representative for Computer Science (elected)
- Computer Science Chair Search Committee (elected) (Chair of Committee)
- Advisor for Computer Science Graduate Student Association (KSU student organization)
- Ph.D. Preliminary Examination Committee
- Faculty Mentoring Committee
- Faculty Advisory Committee
- Graduate Faculty – Full

2022/2023
- A&S College Advisory Committee (CAC) Representative for Computer Science (elected)
- University Research Council (URC)
- Judge for HacKSU Hackathon Fall 2022
- Advisor for Computer Science Graduate Student Association (KSU student organization)
- Ph.D. Preliminary Examination Committee
- Faculty Mentoring Committee
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

2021/2022
- A&S College Advisory Committee (CAC) Representative for Computer Science (elected)
- University Research Council (URC)
- Ph.D. Preliminary Examination Committee
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

2020/2021
- A&S College Advisory Committee (CAC) Representative for Computer Science (elected)
- University Research Council (URC)
- Judge for HacKSU Hackathon Fall 2020
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

2019/2020
- University Council on Technology (UCT)
- Faculty Advisory Committee
- Advisor for Kent State National Society of Black Engineers (KSU student organization)
- Graduate Faculty – Full, Level 4D

2018/2019
- University Council on Technology (UCT)
- Ph.D. Preliminary Examination Committee
- Judge for HacKSU Hackathon Fall 2018
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

2017/2018
- University Council on Technology (UCT)
- Ph.D. Preliminary Examination Committee
- Mentor for KSU Fashion/Tech Hackathon Spring 2018
- Judge for the KSU Graduate Research Symposium Spring 2018
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

2016/2017
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D
- Ph.D. Preliminary Examination Committee
- Seed Grant Panel Reviewer - University Research Council
- Re-organized CS faculty handbook to match standard university organization.
- Advisor for Kent State University Linux User Group-KLUG (KSU student organization)
- Advisor for Computer Science Graduate Student Association-CSGSA (KSU student organization)

- Faculty Professional Improvement Leave (FPIL) Spring 2017

2015/2016
- Faculty Advisory Committee
- Ph.D. Preliminary Examination Committee
- Graduate Faculty – Full, Level 4D
- Computer Science Chair Review Committee
- Advisor for Kent State University Linux User Group-KLUG (KSU student organization)
- Advisor for Computer Science Graduate Student Association-CSGSA (KSU student organization)
- Judge for the KSU Graduate Research Symposium Spring 2016

2014/2015
- Graduate Studies Committee
- Ph.D. Preliminary Examination Committee
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D
- Advisor for Kent State University Linux User Group-KLUG (KSU student organization)
- Advisor for Computer Science Graduate Student Association-CSGSA (KSU student organization)
- Judge for the KSU Graduate Research Symposium Spring 2015

2013/2014
- Ph.D. Preliminary Examination Committee
- Assessment Committee
- Faculty Advisory Committee
- Advisor for Computer Science Graduate Student Association-CSGSA (KSU student organization)
- Graduate Faculty – Full, Level 4D

2012/2013
- Graduate Studies Committee
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

2011/2012
- Curriculum Committee
- Faculty Advisory Committee
- Ph.D. Preliminary Examination Committee
- Graduate Faculty – Full, Level 4D

2010/2011
- Interim Chair (7/1/2010 – 11/15/2010)
- Curriculum Committee (Spring)
- Faculty Advisory Committee (Spring)
- Ph.D. Preliminary Examination Committee
- Graduate Faculty – Full, Level 4D

2009/2010
- University Advisory Committee for Academic Assessment (ACAA)
- Graduate Studies Committee
- Faculty Advisory Committee
- Ph.D. Preliminary Examination Committee
- Graduate Faculty – Full, Level 4D

2008/2009
- University Advisory Committee for Academic Assessment (ACAA)
- Kent State University Press Editorial Board
- OBR Budget Committee
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D
- Faculty Professional Improvement Leave (FPIL) Spring 2009

2007/2008
- University Advisory Committee for Academic Assessment (ACAA)
- Kent State University Press Editorial Board (starting Spring 2008)
- University Research Incentive/Challenge Proposal Reviewer
- Faculty Advisor Ohio Graduate Student Symposium (OGSS) 2008
- Curriculum Committee
- Ph.D. Preliminary Examination Committee
- Faculty Advisory Committee

- Invited and arranged for Dr. Andrian Marcus (Wayne State University) to give a CS Colloquium
- Graduate Faculty – Full, Level 4D

2006/2007

- URC AY/S Proposal Review Panel
- Curriculum Committee
- Ph.D. Preliminary Examination Committee
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

2005/2006

- Chair of Curriculum Committee (Computer Science Curriculum Coordinator)
- College of Arts and Sciences Curriculum Committee (CCC)
- Ph.D. Preliminary Examination Committee
- Faculty Search Committee
- Chair Search Committee
- Invited and arranged for Prof. Vaclav Rajlich (Wayne State University) to give a CS Colloquium
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

2004/2005

- Chair of Curriculum Committee (Computer Science Curriculum Coordinator)
- College of Arts and Sciences Curriculum Committee (CCC)
- URC AY/S Proposal Review Panel
- Developed program assessment plans for B.S., M.S., M.A., and Ph.D. computer science programs
- Ph.D. Preliminary Examination Committee
- Student Computing Environment
- Faculty Advisory Committee
- Invited and arranged for Dr. Atanas Rountev (Ohio State University) to give a CS Colloquium
- Graduate Faculty – Full, Level 4D

2003/2004

- Chair of Curriculum Committee (Computer Science Curriculum Coordinator)
- College of Arts and Sciences Curriculum Committee (CCC)
- Graduate Studies Committee
- Ph.D. Preliminary Examination Committee (Spring ‘04)
- Student Computing Environment
- Faculty Advisory Committee
- Graduate Faculty – Full, Level 4D

2002/2003

- Departmental Merit Committee
- Chair of the Joint GSC/CC Committee to Examine Graduate Curriculum. Made substantial contributions to the Department by organizing and leading the development of a completely new graduate curriculum. This included new course requirements in the Master’s and Doctoral programs, a new Doctoral preliminary examination, new Doctoral minor and major concentrations, and Master’s/Doctoral Seminar course. Worked jointly with CC and GSC to develop the program catalog description, rationale for changing the program, and description of the new courses (Seminars).
- Graduate Studies Committee
- OBR Budget Committee
- Ph.D. Qualifying Exam Committee – Programming Languages (Fall ‘02, Spring ’03)
- Faculty Advisory Committee
- Invited and arranged for Dr. Lee White (Case Western University) to give a CS Colloquium
- Invited and arranged for Dr. Kurt Stirewalt (Michigan State University) to give a CS Colloquium
- Graduate Faculty – Full, Level 4

2001/2002

- Curriculum Committee. An active participant and made substantial contributions to the Departments new undergraduate curriculum while serving on this committee. Much of these efforts are reflected in the upper division course organization, makeup of the Discrete Structures course, and makeup/definition of the new Capstone Project course.
- OBR Budget Committee
- Ph.D. Qualifying Exam Committee – Compilers (Fall ’01)
- Faculty Advisory Committee

- Invited and arranged for Dr. Ethan Munson (The University of Wisconsin-Milwaukee) to give a CS Colloquium
- Graduate Faculty – Full, Level 4

The University of Memphis
2000/2001
- Technology Advisory Committee [Chair]
- Computer Science Ph.D. Qualifier Exam Committee [Chair]
- Faculty Advisor for Student ACM Chapter
- College of A&S Technology Advisory Committee
- College of A&S Computer Engineering/Computer Science Liaison Committee
- Graduate Faculty – Full

1999/2000
- Technology Advisory Committee [Chair]
- Computer Science Laboratory (CS1, CS2) [Chair] – oversaw multiple sections
- Computer Science Ph.D. Qualifier Exam Committee [Chair]
- Faculty Advisor for Student ACM Chapter
- College of A&S Technology Advisory Committee
- College of A&S Computer Engineering/Computer Science Liaison Committee
- College of A&S E-Commerce Degree Program Development Committee
- Graduate Faculty – Full

1998/1999
- Computer Science Ph.D. Qualifier Exam Committee [Chair] – developed new exam format and definition
- CS Graduate Assistantship Committee (Spring term) [Chair]
- Computer Science Laboratory (CS1, CS2) [Chair]– oversaw multiple sections
- Computer Systems Advisory Committee
- Library Committee
- College of A&S E-Commerce Degree Program Development Committee
- Graduate Faculty – Full

1997/1998
- Computer Science Laboratory (CS1, CS2) [Chair] – oversaw multiple sections
- Computer Systems Advisory Committee
- Library Committee
- College of A&S E-Commerce Degree Program Development Committee
- Graduate Faculty – Associate

Wayne State University
1996/1997
- Undergraduate Committee

Wayne State University (as Graduate Student)
- Graduate Student Representative (elected), 9/90-8/91, 9/92-8/94
- Chair Search Committee Student Representative (elected), 9/90-8/91

The University of Michigan – Flint (as Undergraduate)
- Treasure ACM Student Chapter (elected), 9/83-9/85