Curriculum Vitae
Kevin A. Gary, Ph.D.

Current Affiliation:

Associate Professor, Software Engineering, Arizona State University (ASU)
The School of Computing and Augmented Intelligence (SCAI), The Ira A. Fulton Schools of Engineering
E-mail: kgary@asu.edu, Website: https://kgary.github.io/

Current Research Interests:

My research is currently focused on agile, lean and open-source software development practices and communities, applied research in software engineering in healthcare and in educational technologies, and software engineering education. I have always been active, in industry or academe, in areas where software directly impacts the public good.

Academic Highlights:

- Over $1.1 million in research expenditures and share of over $5 million in research awards from a Master's only graduate and undergraduate research program.
- Over 90 peer-reviewed publications.
- Mentored over 60 graduates through their culminating experiences (thesis or project).
- As Program Chair and ABET Coordinator, led the Software Engineering program through its first two rounds of ABET accreditation, the world's first ABET-accredited Software Engineering program with an online modality.
- Served as Program Chair of Software Engineering at ASU during a period of significant growth (from 655 to 1069 total headcount undergraduates).
- Personally developed more than a dozen advanced software engineering courses in the upper division & graduate levels in areas such as Agile/Lean Software Engineering, Software Construction, Software Design Databases, Software Process Requirements Engineering, Web & Mobile development, Services-Oriented Computing, Distributed Computing, and Security in Software Engineering. Created online content for most of these courses.

Education:

Ph.D. Computer Science, Arizona State University, Tempe, AZ, January 1999.
Dissertation: "Open Process Components" – A distributed component framework for interoperability and reuse of automated software and business processes.
Degree Program Areas of Emphasis: Software Engineering, Artificial Intelligence.

M.S. Computer Science, Arizona State University, Tempe, AZ, May 1993.
Thesis: "RABIT: A spreading activation approach to real-time commonsense reasoning" – A limited reasoning agent using spreading activation and nonmonotonic logic.
Degree Program Areas of Emphasis: Artificial Intelligence, Databases, Programming Languages.

B.S. Computer Science/Applied Mathematics, SUNY Albany, May 1989. summa cum laude

Academic Appointments:

Tenure-track Appointments:

Associate Professor (tenured), Ira A. Fulton Schools of Engineering ASU July 2014 – present

Associate Professor (tenured), College of Technology & Innovation ASU April 2010 – June 2014

Assistant Professor (tenure-track), College of Technology & Innovation ASU 2004 – April 2010

Assistant Professor (tenure-track), Electrical Engineering and Computer Science Department, The Catholic University of America, Washington, D.C. January 1999 – June 2000.

Administrative Appointments:

ABET Coordinator, Software Engineering, School of Computing and Augmented Intelligence, the Ira A. Fulton Schools of Engineering, Arizona State University, August 2020– July 2023.

- Oversaw the self-study review process and site visit resulting in earning full 6-year ABET accreditation for the Software Engineering program with no deficiencies, weaknesses, or concerns
- Defined a new continuous improvement process focusing on both formative and summative assessment

Program Chair, Software Engineering, School of Computing, Informatics, and Decision Systems Engineering *(now SCAI)*, the Ira A. Fulton Schools of Engineering, Arizona State University, 2016–2019.

- Leadership during a period of significant growth for the degree program driven by mostly the online program. In this time the undergraduate program enrollment grew 400 students and almost doubled online.

Associate Chair for Computing Programs, Department of Engineering, ASU, 2010 – 2011.

Non tenure-track Appointments and Affiliations:
Learning Engineering Institute Faculty Affiliate, Arizona State University. https://learningengineering.asu.edu/
Visiting Scientist, Children's National Medical Center, Sheik Zayed Institute for Pediatric Surgical Innovation, Bioengineering Initiative, 2011-2012. Washington D.C. (sabbatical)

- Chief Software Architect in the areas of image-guided surgery and surgical robotics.

Visiting Assistant Professor, Division of Computing Studies ASU August 2003 - May 2004 (50%)
Faculty Associate, Computer Engineering Technology Department, ASU, 2001 - 2003

Industry Positions (permanent, non-contract positions):

Senior Software Architect, UNICON, Inc. Chandler, AZ, 2000 - 2004.

- Responsible to C-level for delivery of an enterprise platform product for higher education.
- Lead Architect for the Delivery and Assessment engines of the Virtuoso platform to the Cisco Learning Institute, the largest e-learning technology platform in the world at the time.

Software Engineer, Global Associates Ltd. Arlington, VA, 1993 - 1995

- Software Engineer on C4I systems.

Scholarly Activity

Funding:

Active:

- "Synthetic Team Training and Evaluation Environment", US DoD, $1,390,692 (Co-PI 20%), 2023-2026.
- "SUCCESS: A Survey of Computing, Coding, Engineering, and Software Systems". State Farm Community Grant $20K (PI 100%) 2023-25.
- "A Skeletal Atlas of Elder Abuse: Establishing Markers of Physical Abuse and Developing a Digital Diagnostic Tool for Education and Screening". Dept. of Justice (PI Bolhofner, Co-PI 30%) $1,035,238, 2021-25.

Completed:

- "Research training in drug abuse prevention: closing the research-practice gap". HHS: National Institutes of Health (NIH). July 2021 – June 2024. Total award 2294493 (2% share)
- "Training IT Engineers in Secure Software Development". State Farm Community Grant, $25K (PI 100%) 2019-20.
- "An evaluation of the PERvasive Learning System from an End-User Perspective". Advanced Distributed Learning Initiative (PI Craig, Sr. Personnel 10% share) $1,139,149. 2019-21.
- "Creating an IoT Learning Platform for the Future". State Farm Foundation, $20K (PI) 2019-20.
- Quezado, Z., Cleary, K., & Gary, K. "SCD-PROMIS: A software platform for enhanced self-efficacy and patient-provider engagement for children with sickle cell pain" $500K (ASU $189K, sole ASU PI). Pfizer Foundation, 2015-17.
- Gary K. "Improving Asthma Control through mHealth-Based Home Monitoring" NIH R41 SBIR Phase I with Seattle Children's Hospital and Mad*Pow. $225K, (ASU $45K), 2014-15.
- Gary K. "mHealth system for PROMIS measures Pain Reporting ", award from the Joseph E. Roberts Foundation. Collaboration with Children's National Health System (CNHS). $30K (ASU share $18K). 2015-16.
- Gary K., Ghazarian, A., & Mazzola, D. "The Software Enterprise", State Farm Foundation $40K ($18K share). 2015.
- Gary K. "Open Source Evaluation for the OS-URAVS Program", Open Source Unmanned Remote Autonomous Vehicle Systems Program, $10K. 2014-15.
- "The Software Enterprise: A Reinforcing Pedagogical Model for Software Engineering", NSF Course Curriculum and Laboratory Improvement program. PI, $148,344. 2009-2012.
- "Jazz Innovation Awards", IBM. Co-PI (H. Koehnemann), $25,000, 2009.
- "Agile Methods for Entrepreneurship: The AME Project", ASU Pathways to Entrepreneurship Grant (PEG), supported by the Kaufmann Foundation, $39,731. Primary PI. Period of Performance July 1, 2008 to June 30, 2009.
- "The Software Enterprise: Preparing Industry-ready Software Engineers". Arizona Board of Regents Learner-Centered Education Program. $24,041. Awarded April 2005, concluded January 15, 2007.
- "mHealth Tablet Application Development", Children's National Medical Center, $6000, November 15, 2013 – June 1, 2014.
- "Aspira Home Asthma Monitoring", Children's National Medical Center, $9600, Spring 2013.
- (internal, competitive) "Health Engineering Applications Laboratory (HEAL)" ASU CTI SSE internal seed program funds. $10,000, Spring 2013. Project is to start an engineering lab focused on health applications in robotics, human factors, and software engineering.
- "Continued Development for the Image-guided Surgical Toolkit (IGSTK)" NIH program PAR05-057 "Continued Development and Maintenance of Software". PI: Kevin Cleary, ISIS Center, Georgetown University Medical Center. (ASU $147K). 2008-2010
- Crossover Resolution over Complex Images and Development of Corpus", National Geospatial-Intelligence Agency ATP program. PI: Anshuman Razdan, ASU. ($30K share) 2007.
- "Workflow Automation in Open Source Enterprise portals", Unicon Inc. $13,467. 2007.
- "Image-Guided Surgery Toolkit". Georgetown University Medical Center (subcontract from NIH STTR), $72,436. 2005-2006.

Sponsored Research at the Catholic University of America:

- "Software Engineering Services for the Naval Fires Control Systems Project". SPAWAR San Diego, $34,232. 1999.
- (non-competitive) "Open Process Components". Catholic University of America Grant-in-Aid Program, $3,000 1999.

Invention Disclosures:

- Quezado, Z., Cleary, K., and Gary, K. "System for improving patient reporting of pain, increasing patient/provider engagement, and decreasing hospital readmission rates", CNMC, 2014.

Publications

My work is in the field of Software Engineering, a professionally-oriented discipline that skews toward more applied work. Further, computing as a whole tends to utilize peer-reviewed conferences and workshops more heavily than other disciplines due to the rapidly evolving technology landscape (see M. Franceschet "The Role of Conference Publications in CS; CACM 2010, CRA "Evaluating Computer Scientists and Engineers for Promotion and Tenure", and "Choosing a venue: conference or journal?" M. Ernst 2006).

Co-authors in *italics* are students at ASU, * is a graduate student for whom I chaired.

Papers in Refereed Archival Journals:

J1. Kempf, K.G., Uzsoy, R., Smith, S.F., Gary, K. "Evaluation and Comparison of Production Schedules", *Computers in Industry* 42, 203-220 (2000).

J2. Tvedt, J., Tesoriero, R., and Gary, K., "The Software Factory: An Undergraduate Computer Science Curriculum" Journal of Computer Science Education, 12(2), 91 - 117, 2002.

J3. Gary, K., Blake, B., Ibanez, L., Gobbi, D., Aylward, S., and Cleary, K. "IGSTK: An Open Source Software Platform for Image-Guided Surgery" *IEEE Computer* Special Issue on software engineering and application of software-based medical devices and device systems, April 2006.

J4. Enquobahrie, A., Cheng, P., Gary, K., Ibanez L., Gobbi D., Lindseth, F., Yaniv, Z., Aylward, S., Jomier, J., and Cleary, K. "The Image-Guided Surgery Toolkit IGSTK: An Open Source C++ Software Toolkit" Journal of Digital Imaging, August 2007. *Selected as the Best Paper – Second Place for the Journal of Digital Imaging, Volume 20 (2007).*

J5. Gary, K. "The Software Enterprise: Practicing Best Practices in Software Engineering Education", The International Journal of Engineering Education Special Issue on Trends in Software Engineering Education, Volume 24, Number 4, July 2008, pp. 705-716.

J6. Acharya, R., Kagan, A., *Lingam, S.R.,* and Gary, K. "Impact of Website Usability on Performance: A Heuristic Evaluation of Community Bank Homepage", Journal of Computer Information Systems, December 2008.

J7. Gary, K., *Kokoori, S.*, Muffih, B.*,* Enquobahrie, A., Cheng, P., Yaniv, Z., and Cleary, K. "Agile Methods for Safety-Critical Open Source Software", *Journal of Software: Practice and Experience*, Wiley & Sons, April 2011.

J8. Koutenaei, B. Azizi and Kojcev, R. and Wilson, E. and Gary, K.A., Navab, N. and Cleary, K. "Do we really need Robots for NOTES", *International Journal of Computer-Assisted Radiology and Surgery (CARS)*, vol. 8, no. 1, pp. 201-205, Springer 2013.

J9. *Stoll, R.D.,* Pina, A.A., Gary, K. & Amresh, A. (2017). Usability of a Smartphone Application to Support the Prevention and Early Intervention of Anxiety in Youth. *Cognitive and Behavioral Practice.* doi:10.1016/j.cbpra.2016.11.002

J10. Gary, K. and Blake, M.B. C-PLAD-SM: Extending Component Requirements with Use Cases and State Machines. *Studies in Computational Intelligence*. vol. 722 pp. 93-106. June 2017. Springer. Doi:10.1007/978-3-319-61388-8_6

J11. Amresh, A., Lyles, A., and Gary, K. "Game Based Behavior Change Methods in Healthcare: The Case of Obesity", in *Cognitive Informatics in Health and Biomedicine Understanding and Modeling Health Behaviors*, (Patel, V.L., Arocha, J.F., & Ancker, J.S. eds.) Springer, 2017.

J12. Gary, K. A., Acuna, R., Mehlhase, A., Heinrichs, R., & Sohoni, S. (2020). SCALING TO MEET THE ONLINE DEMAND IN SOFTWARE ENGINEERING. *International Journal on Innovations in Online Education*, *4*(1).

J13. *Dass, S.** and Gary, K. (2021). Predicting Student Dropout in Self-Paced MOOC Course Using Random Forest Model. *MDPI Informatics, Special Issue on Artificial Intelligence Applications for Education.*

J14. *Das*, *S**. and Gary, K. (2025). Regression Testing in Agile: A Systematic Mapping Study. *MDPI Software 4(2), 9.*

J15. *(accepted pending revisions)* LaPlace, C., Jordan, Lande, M., Gary, K., and S. Brunhaver, S. How Hackathons Create a Collaborative Tech Community: A Case Study. *Computer Supported Cooperative Work.*

J16. *(submitted) Das*, *S**. and Gary, K. (2025). Formalizing Regression Testing for Agile and Continuous Integration Environments. *Software Quality Journal.*

Papers in Refereed Conferences, Book Chapters, Symposia, and Workshops. The papers are listed by Boyer's Model of scholarly contribution area – education, discovery, then application.

Education:

C1. Gary, K., LaPlace, C., *Rupak, V., Modi, R., and Vaida, Karthik*. "SUCCESS: A Summer Camp Promoting On-campus Connections in Software Engineering", The National Conference of the American Society for Engineering Education (ASEE 2025), Montreal CA, June 2025. *Best Paper**

C2. Gary, K. and *Das, S**. "Developing an Agile Mindset in Software Engineering Students," The National Conference of the American Society for Engineering Education (ASEE 2024), Portland, OR USA, June 2024

C3. Gary, K. "The Impact of COVID-19 in an online and on-campus Software Engineering program," In the 2024 American Society for Engineering Education Pacific-Southwest Regional Conference. Las Vegas, NV, April 2024.

C4. Gary, K. “Software Engineering and Security: Lessons Learned Creating a New Course in Security from a Software Engineering Perspective.” Proceedings of the National Conference of the American Society for Engineering Education (ASEE 2022), Minnesota, MN, USA, June 2022.
C5. Gary, K. "Project-based Pedagogy Online: Challenges in online software engineering education," in 2022 IEEE/ACM First International Workshop on Designing and Running Project-Based Courses in Software Engineering Education (DREE), Pittsburgh, PA, USA, May 2022 pp. 25-26.
C6. Sandy, D., Gary, K., and Sohoni, S. “Impact of a Virtualized IoT Environment on Online Students”, Proceedings of the ACM/ASEE/IEEE Frontiers in Education Conference (FIE’20), (held virtually) 2020.
C7. Gary, K., *Gupta, V*.,* and *Singh Kalsi, M**. “A Tool for Teaching Web Dependency Analysis”. Proceedings of the 2020 Information Systems Education Conference. Dallas, TX, March 2020.
C8. Mehlhase, A., Heinrichs, R., and Gary, K. “Effective Use of Slack and Short Video to Scale Online Learning Communities”. Proceedings of the Frontiers in Education of Computer Science conference (FECS 2019), Las Vegas, NV, July 2019.
C9. Gary, K., *Johnson, T., Murphy, C.*, and *Athreya, R*. “Agile Teaching and Learning through Continuous Assessment”. Proceedings of the Frontiers in Education of Computer Science conference (FECS 2018), Las Vegas, NV, August 2018.
C10. Gary, K., Sohoni, S., and Lindquist, T. “It's Not What You Think: Lessons Learned Developing an Online Software Engineering Program.” Proceedings of the 27th Conference on Computer and Software Engineering Education & Training (CSEE&T 2017). Savannah, GA, November 2017.
C11. *Tirkey, A*., & Gary, K. A. (2017). “Curricular change management with Git and Drupal: A tool to support flexible curricular development workflows.” In *Software Engineering Research, Management and Applications* (SERA), 2017 IEEE 15th International Conference on (pp. 247-253). Greenwich, UK, June 2017.
C12. Heath, C., Baron, T., Gary, K. and Amresh, A. "Reflection on Assumptions from Designing Female-Centric Educational Games", Proceedings of the 2nd International Conference on Serious Games, Brisbane, Australia, September 2016.
C13. *Xavier, S.**, *Murphy, C*., and Gary, K. “A Student Activity Dashboard for Ensuring Project-based Learning Compliance”, Proceedings of the National Conference of the American Society for Engineering Education (ASEE 2016), New Orleans, LA, June 2016.
C14. Gary, K. and *Xavier, S.** “Agile Learning through Continuous Assessment”. Proceedings of the ACM/ASEE/IEEE Frontiers in Education Conference (FIE’15), El Paso, TX, October 2015.
C15. *Nagappan, Y.* and Gary, K. “Pedagogical Support Using Moodle Workflows”, Proceedings of the 12th International Conference on Information Technology – Next Generations (ITNG 2015), Las Vegas, NV April 2015.
C16. Gary, K. “Running an Agile Class”, Proceedings of the 2014 International Conference on Frontiers in Education: Computer Science and Computer Engineering, Las Vegas, NV, July 2014.
C17. Csavina, K., Gary, K. and McKenna, A. “Scalability in an Industry Project Process”, Proceedings of the National Capstone Design Conference, Columbus OH, June 2014.
C18. *Mandal, S.* and Gary, K. “Distributed Version Control for Curricular Content Management”, Frontiers in Education 2013 (FIE’13), Oklahoma City, October 2013.
C19. Gary, K., Lindquist, T., Bansal, S., and Ghazarian, A. “A Project Spine for Software Engineering Curricular Design”, Proceedings of the 26th Conference on Software Engineering Education & Training (CSEET 2013), Co-located with ICSE 2013, San Francisco, CA, May 2013.
C20. Lande, M., Ruddell, B., Morrell, D., Grondin, R., Lara, R.A., Whitehouse, R., and Gary, K. “Work in Progress: Constructing a Multidisciplinary Design Project for First-Year Engineering and Computing Students”, Proceedings of Frontiers in Education (FIE 2012), Seattle, 2012.
C21. Gary, K., *Verma, S., Nagappan, Y.,* and Branaghan, R. “Assessing Evolving Conceptual Knowledge in Software Engineering Students” Proceedings of the National Conference of the American Society for Engineering Education (ASEE 2012), San Antonio, TX, June 2012.
C22. *Rajendran, S.,* Gary, K., and Koehnemann, H. “A Tool for Teaching Risk”, Proceedings of the Information Technology: Next Generations (ITNG 2012), April 2012.
C23. *Doran, J.,* Gary, K., and Koehnemann, H. “Defect Estimation Using Capture-Recapture in Jazz”, Proceedings of the 15th Conference on Software Engineering and Applications (SEA 2011). Dallas, TX, December 2011.
C24. Gary, K. “The Benefits of Transparency in Managing Software Engineering Capstone Projects”, proceedings of the National Conference of the American Society for Engineering Education (ASEE 2010), Louisville, KY, June 2010
C25. Gary, K. “Contextual Requirements Experiences within the Software Enterprise”, The 4th International Workshop on Requirements Engineering Education and Training (REET 2009), Co-located with the 17th IEEE International Conference on Requirements Engineering, Atlanta, GA, August 2009.
C26. Gary, K., Razdan, A., Koehnemann, H., Sannier, A., and Kagan, A. “Work-in-Progress: Embedding Entrepreneurship in the Computing Curricula”, Frontiers in Education (FIE 2008), Saratoga Springs, NY, October 2008.
C27. Gary, K., “The Software Enterprise: Preparing Industry-ready Software Engineers” *Software Engineering: Effective Teaching and Learning Approaches*, (book chapter) Ellis, H., Demurjian, S., and Naveda, J.F., (eds.), Idea Group Publishing. October 2008.
C28. Gary, K., Koehnemann, H., and Gannod, B. “The Software Enterprise: Facilitating the Industry Preparedness of Software Engineers” National Conference of the American Society for Engineering Education (ASEE 2006), Chicago, IL, June 2006.
C29. Gary, K., Gannod, G., Koehnemann, H., Lindquist, T., and Whitehouse, R. “Work-In-Progress: The Software Enterprise” Frontiers in Education (FIE 2005), Indianapolis, IN, October 2005.
C30. Gary, K., Gannod, G., Koehnemann, H., and Blake, M.B. “Educating Future Software Professionals on Outsourced Software Development” National Conference of the American Society for Engineering Education (ASEE 2005), Portland, OR, June 2005.

C31. Tvedt, J., Tesoriero, R., and Gary, K., "The Software Factory: Combining software engineering and computer science undergraduate education" Proceedings of the 23rd International Conference on Software Engineering (ICSE 2001), May 2001. *(acceptance rate 18%)*
C32. Lindquist, T., Gary, K., Koehnemann, H., and Naccache, H. "Component Framework for Web-based Learning Environments" Proceedings of the Frontiers in Education Conf. (FIE'99). San Juan, Puerto Rico, November 1999.

Discovery:

C33. *Chakraborty**, A., *Das**, S., Gary, K. (2025). Machine Learning Operations: A Mapping Study. In: Arabnia, H.R., Deligiannidis, L. (eds) Software Engineering Research and Practice and e-Learning, e-Business, Enterprise Information Systems, and e-Government. CSCE 2024. Communications in Computer and Information Science, vol 2263. Springer, Cham. https://doi.org/10.1007/978-3-031-86644-9_1
C34. *Das, S**. and Gary, K. "Challenges and Success Factors in Large Scale Agile Transformation – A Systematic Literature Review," In: Latifi, S. (eds) ITNG 2024 21st International Conference on Information Technology-New Generations (ITNG '24), Las Vegas, NV, April 2024.
C35. *Kalsi, M.S.*, Gary, K., Gupta, V.*, Das, S.* (2022).* "A Tool for Syntactic Dependency Analysis on the Web Stack." In: Latifi, S. (eds) ITNG 2022 19th International Conference on Information Technology-New Generations. Advances in Intelligent Systems and Computing, vol 1421. Springer, Cham. https://doi.org/10.1007/978-3-030-97652-1_4
C36. *Das, S.** and Gary, K. "Communication in Agile Software Development – A Mapping Study", *The 19th International Conference on Scientific Computing* (CSC'21). Las Vegas, NV. July 2021.
C37. *Das, S.** and Gary, K. "Agile Transformation at Scale: A Tertiary Study", *2021 Workshop on Agile Transformation and Large-scale Agile, XP 2021 Conference*, (virtual) June 2021.
C38. Gary, K., *Rallabhandi, P.**, Quezado, Z., and Cleary, K. "A Pain Reporting Platform for Adolescents with Sickle-Cell Disease". The 52nd Hawaii International Conference on System Sciences (HICSS-52), January 2019.
C39. Gary, K., *Stoll, R.*, *Rallabhandi, P.**, *Patwardhan, M.**, *Hamel, D.*, Amresh, A., Pina, A., Cleary, K. and Quezado, Z. (2017). "MHealth Games as Rewards: Incentive or Distraction?" Proceedings of the ACM International Conference on Digital Health, London UK, July 2017.
C40. *Patwardhan, M**, *Stoll, R., Hamel, D.B.*, Amresh, A., Gary, K.A. and Pina, A., "Design a Mobile Application to Support the Indicated Prevention and Early Intervention of Childhood Anxiety", Proceedings of the National Institutes of Health Conference on Wireless Health (WH'15), Bethesda, MD, October 2015.
C41. Gary K., Yaniv, Z., Guler, O. Cleary, K., and Enquoharie, A. "Source Code Control Workflows for Open Source Software", Proceedings of the 13th International Conference on Software Engineering Research and Practice, Las Vegas NV, July 2014.
C42. Gary, K., Kocjev, R., and Cleary, K. "Observations on the Evolving Maturity of Software and Systems Architecture Supporting Surgical Procedures", Workshop on System of Systems of Medical Devices (SoSMD 2011). Kansas, November 2011.
C43. Muffih, B.* and Gary, K. "Global State Validation in a Component-based Architecture", Proceedings of the 9th Conference on Software Engineering Research and Practice (SERP'10). Las Vegas, NV, July 2010.
C44. Naccache H., Gannod G., and Gary, K. "A Self-Healing Web Server Using Differentiated Services", Proceedings of the 4th International Conference on Service Oriented Computing (ICSOC 2006), Chicago, IL, Dec. 2006. (*accept rate 17%*)
C45. Gary, K. and Koehnemann, H. "Component-based Deployment for Web Applications: Methods and Issues" *Software Engineering for Modern Web Applications*, Brandon, D. (ed.), Idea Group Publishing. 2008.
C46. Gary, K., *Kokoori, S.*, David, B., Otoom, M.,* and Cleary, K. "Architecture Validation in Open Source Software" Proceedings of ROSATEA 2007: The Role of Software Architecture for Testing and Analysis, Boston MA, July 2007.
C47. Blake, M.B., Cleary, K., Ranjan, S., Ibanez, L., and Gary, K. "Use Case Driven Component Specification: A Medical Applications Perspective to Product Line Development" ACM Symposium for Applied Computing (SAC2005), Santa Fe, NM, March 2005. (*acceptance 36%*)
C48. Gary, K. and Lindquist, T. "Distributed Architectures for Process Component Support". Proceedings of the 5th Intl. Conf. on Information Systems Analysis and Synthesis (ISAS'99), invited session on Process Support for Distributed Team-based Software Development (PDTSD'99). Orlando, FL, August 1999.
C49. Gary, K. and Lindquist, T. "Cooperating Process Components" Proceedings of the 23rd Intl. Conf. on Computer Software and Applications (COMPSAC'99). Phoenix, AZ, October 1999.
C50. Gary, K., Lindquist, T., Koehnemann, H., and Derniame, J.C. "Component-based Software Process Support" Proceedings of the 13th International Conference on Automated Software Engineering, (ASE'98), November 1998. *(acceptance rate 16%)*
C51. Gary, K., Kempf, K., Smith, S., Uzsoy, R., "Measuring the Quality of Manufacturing Schedules", in *Intelligent Scheduling Systems*, Scherer, W., Brown, D. (eds.), Kluwer Academic Publishing, 129-154 (1995).
C52. Gary, K. and Elgot-Drapkin, J. "A Flexible Marker-Passer for Semantically Weak Search" Proc. of the 1994 ACM Symposium on Applied Computing, pp. 313-317, March 1994.

Application:

C53. Craig, S. D., Gary, K., Gorman, J. C., Verma, V., & LiKamWa, R. "A Synthetic Training Environment for Assessing Changes in Team Dynamics with the Generalized Intelligent Framework for Tutoring." In *Generalized Intelligent Framework for Tutoring (GIFT) Users Symposium (GIFTSym12)*. Orlando FL, August 2024.
C54. *Cole, M.*, Gary, K., Meier, M., Gonzales, N., Pina, A., & Stoll, R. "Utilizing the Fediverse and AI-bots for Youth Engagement During COVID-19 in a Hybrid Preventative Intervention", Hawaii International Conference on System Sciences, (HICSS-24) Honolulu, HI, January 2024.
C55. *Kottekat, N.* & Gary, K. "GATE II: Visualizing Semantic Web Search", 2022 Intl Conf on Computational Science and Computational Intelligence, Las Vegas, December 2022.

C56. Gary, K., *Cole, M.*, *Purbey, D., Lin, M.J.*, Berl, M., *Jarawala, C.,* and Sohoni, S., "BrainTracker: mHealth app for Remote Assessment of Pediatric Epilepsy and Comorbidities", the 8th IEEE Conference on Serious Games and Applications for Health, Vancouver, CA, August 2020. doi: 10.1109/SeGAH49190.2020.9201850

C57. Amresh, A., Lyles, A., Small, L., & Gary, K. (2017). "FitBit Garden: A Mobile Game Designed to Increase Physical Activity in Children." In Proceedings of the 2017 International Conference on Digital Health.

C58. Thomson, J. Hass, C., Horn, I., Kleine, E. Mitchell, S., Gary, K., Ahmed, I., *Hamel, D.B.,* and Amresh, A. "ASPIRA: Employing a Serious Game in an mHealth App to Improve Asthma Outcomes", the 5th IEEE Conference on Serious Games and Applications for Health, Perth, Australia, April 2017.

C59. *Tan, M.**, Guler, O., Cheng, P., and Gary, K. "A Lightweight App Distribution Strategy to Generate Interest in Complex Commercial Apps: Case Study of an Automated Wound Measurement System", The 50th Hawaii International Conference on System Sciences (HICSS-50), January 2017.

C60. Gary, K., Kojcev, R., and Cleary, K. "A Systems Integration Architecture for NOTE Surgery", Proceedings of the 16th Conf. on Software Engineering and Applications (SEA 2012). Las Vegas, NV, November 2012.

C61. *Jeyachandran, M.* and Gary, K. "WERCCS: A Client-side Workflow Enactment Service Using AJAX", *(paper plus poster)* 6th Intl Conf. on Information Tech: New Generations (ITNG'09), Las Vegas, NV, April 2009.

C62. *Uppalapati*, S., Femiani, J.C., Razdan, A., Gary, K. "3D VQI: 3D Visual Query Interface", 6th Intl Conf. on Information Technology: New Generations (ITNG 2009), Las Vegas, NV, April 2009.

C63. Ibanez, L., Enquobahrie, A., Turek, M., Jomier, J., Avila, R., Cheng, P., Yaniv, Z., Lindseth, F. Gary, K., and Cleary, K. "IGSTK: Building High Quality Roads with Open Source Software", Workshop on Systems and Architectures for Computer Assisted Interventions (SACAI'08) at the Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI'08), New York, NY, September 2008.

C64. Gary, K. and Koehnemann, H. "Component-based Deployment for Web Applications: Experiences with Duct Tape and Glue" in *Software Engineering for Modern Web Applications: Methodologies and Technologies* (Brandon, D. *ed*). Idea Group Publishing 2008.

C65. Gary, K., Enquobahrie, A., Ibanez, L., Cleary, K., Cheng, P., and Yaniv, Z. "The Development of the Image-Guided Surgical Toolkit (IGSTK): An Open Source Package for Medical Interventions", Workshop on Software and Systems for Medical Devices and Services (SDMS'07) at the Real-time Systems Symposium (RTSS'07), Tucson, AZ, December 2007.

C66. Gary, K., *Szabo, B., Vijayan, L., Chapman, B., Radhakrishnan, J.,* and *Sivaraman, A.* "JMaPSS: Spreading Activation for the Semantic Web", Proceedings of the International Conference on Reuse and Integration (IRI 2007), Las Vegas, August 2007.

C67. Cheng, P., Ibanez, L., Gobbi, D., Gary, K., Aylward, S., Jomier, J., Enquobahrie, A., Zhang, H., Kim, H.S., Blake, M.B., and Cleary, K. "The image-guided surgery toolkit IGSTK: an open source C++ software toolkit" Proceedings of SPIE Medical Imaging, February 2007.

C68. Gary, K., *Kokoori, S.*, David, B., Otoom, M.,* Blake, M.B., and Cleary, K. "An Architecture Validation Toolset for Ensuring Patient Safety in an Open Source Software Toolkit for Image-guided Surgery Applications" The Workshop on Open Source Software at the 9th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI'06), Copenhagen, Denmark, October 2006.

C69. Cheng, P., Zhang, H., Kim, H., Gary, K., Blake, M.B., Gobbi, D., Aylward, S., Jomier, J., Enquobahrie, A., Avila, R., Ibanez, L., and Cleary, K. "IGSTK: Framework and Example Applications Using and Open Source Toolkit for Image Guided Surgery Applications" Proceedings of SPIE Medical Imaging 2006, San Diego, CA, February 2006.

C70. Ibanez, L., Jomier, J., Gobbi, D., Avila, R., Blake, M. B., Kim, H., Gary, K., Aylward, S., and Cleary, K. "IGSTK: A State Machine Architecture for an Open Source Software Toolkit for Image-Guided Surgery Applications" The Workshop on Open Source Software at the 8th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI'05). Palm Springs, CA, October 2005.

C71. Blake, M.B., Cleary, K., Kim, H.S., Ranjan, S.R., Gary, K., Jomier, J, Aylward, S., and Ibanez, L., "Component-Based Design and Development for Robust Medical Applications" High Confidence Medical Device Software and Systems Workshop, Philadelphia, PA, June 2005.

C72. Cleary, K., Stoianovic, D., Glossop, N., Gary, K., Onda, S., Cody, R., Lindisch, D., Stanimir, A., Mazilu, D., Patriciu, A., Watson, V., and Levy, E., "CT-Directed Robotic Biopsy Testbed: Motivation and Concept" in S.K. Mun (ed.) Medical Imaging 2001, Proceedings of SPIE vol. 4319, pages 231-236, 2001.

C73. Lindquist, T. and Gary, K. "Experience with Distributed Process Components Using Jini and JavaSpaces" Proceedings of the 6th Intl. Conf. on Information Systems Analysis and Synthesis (ISAS'2000), invited session on Process Support for Distributed Team-based Software Development (PDTSD'00). Orlando, FL, August 2000.

C74. *Jiang, L.*, Gary, K., Cleary, K., and Choi, J. "Component-based Technology Integration for Minimally Invasive Spine Procedures" Proceedings of Mathematics and Engineering Techniques in Medicine and Biological Sciences (METMBS) 2000. Las Vegas, NV, June 2000.

C75. *Jiang, L.*, Gary, K.,Yi, J., Kim, K.H., Kwon, S., Ra, J.B., Cleary, K., Zeng, J, Mun, S.K. "Spine Biopsy Simulator Incorporating Force Feedback" Proc. of Mathematics and Engineering Techniques in Medicine and Biological Sciences (METMBS) 2000. Las Vegas, NV, June 2000.

C76. Choi, J., Cleary, K., Zeng, J., Gary, K., Freedman, M., Levy, E., Watson, V., Traynor, L., and Wang, Z. "I-SPINE: a Software Package for Advances in Image-guided and Minimally Invasive Spine Procedures" Proceedings of SPIE, from the 28th AIPR Workshop, Washington, DC, October 1999.

C77. Gary, K., Lindquist, T., Koehnemann, H., and Sauer, L. "Automated Support for Organizational and Personal Processes" Proceedings of the International Conference on Supporting Group Work (Group'97), Phoenix, AZ, November 1997.

C78. Gary, K., Kempf, K., Smith, S., Uzsoy, R., "Assessing the Quality of Production Schedules" Proceedings of the Intelligent Scheduling Systems Symposium, San Francisco, CA, November 1992.
C79. Gary, K., *Rallabhandi, P.**, Walek, E., Nettleton, M., *Ahmed, I.**, Cleary, K., and Quezado, Z. "An mHealth Hybrid App for Self-Reporting Pain Measures for Sickle Cell Disease", Proceedings of the IEEE-NIH 2016 Special Topics Conference on Healthcare Innovations and Point-of-Care Technologies, Cancun MX, November 2016.
C80. Gary, K., Koehnemann, H., Blakley, J., *Goar, C., Mann, H.*, and Kagan, A. "A Case Study: Open Source Community and the Commercial Enterprise", The IEEE 6th International Conference on Information Technology: New Generations (ITNG 2009), Las Vegas, NV, April 2009.

Other Scholarly Contributions:

Non-refereed Publications:

O1. (Invited Article) Gary K. "Project-based Learning" *IEEE Computer* (48):9:98-100 ed. Sobel, A.K. September 2015.
O2. Breu, R., Hatcliff, J., Ahn, G. J., Avrunin, G., Gary, K., Gunter, C. A., Gupta, S., and Krcmar, H. Fourth International Workshop on Software Engineering in Health Care. 2012.
O3. Gary, K. "State Machine Validation", chapter in *The Image-guided Surgery Toolkit (IGSTK) 2nd ed.* Cleary, K. (ed.), published by the ISIS Center, Georgetown University, June 2009.
O4. Gary, K. and *Dandhibotla, J.* "Scene Graph Visualization", section in book chapter "IGSTK Coordinate Systems" in *The Image-guided Surgery Toolkit (IGSTK)*. Cleary, K. (ed.), published by the ISIS Center, Georgetown University, June 2009 (2nd ed.).
O5. Gary, K. "Software Development Process", book chapter in *The Image-guided Surgery Toolkit (IGSTK)*. Cleary, K. (ed.), published by the ISIS Center, Georgetown University, February 2007 (1st ed) and June 2009 (2nd ed., updated chapter).
O6. Blake, M.B. and Gary, K. "Requirements", book chapter in *The Image-guided Surgery Toolkit (IGSTK)*. Cleary, K. (ed.), published by the ISIS Center, Georgetown University, February 2007 (1st ed) and June 2009 (2nd ed., updated chapter).
O7. Gary, K., Blake, B., Aylward, S., Jomier, J., Gobbi, D., Kim, H., Avila, Rick., Ibanez, L., & Cleary, K. "IGSTK: Development Process and Project Management Best Practices for an Open Source Software Toolkit for Image-Guided Surgery Applications" The Insight Journal (non-refereed), online at http://www.insight-journal.org. October 2005.

Posters, Tutorials, Abstracts, Invited Talks, Panels, and other Presentations:

O8. Avancha, K., Malhotra, P., Gorman, J., Verma, V., Likamwa, R., Gary, K. Spain, R., Goldberg, B., and Craig, S. "Towards a Modular Team Dynamics Measurement Framework Using Hybrid Cognitive Task Analysis, Perturbation Training and Dynamic Metrics of Team Cognition," Poster at the Annual Meeting of the Human Factors and Ergonomics Society (HFES 2024). Phoenix AZ, September 2024.
O9. Avancha, K., Malhotra, P., Gorman, J., Verma, V., Likamwa, R., Gary, K. Spain, R., Goldberg, B., and Craig, S. "Development of Team Dynamic Measurement Framework Using Learning Engineering Methodology". Show and Share Presentation, The International Consortium for Innovation and Collaboration in Learning Engineering, Learning Engineering Conference (ICICLE '24), Tempe AZ, June 2024.
O10. *Das, S**. and Gary, K. "Scaled Agile Transformation", short paper and poster, XP 2021, (virtual) June 2021.
O11. Craig, S. D., Bhat, K. R., Roscoe, R. D., Bernard, W., Gary, K., & Douglas, I. (2021, August). Applying user experience research techniques to support the development of Learning Technology: Evaluations of the PERvasive Learning System (PERLS). Poster presented at iFEST: Innovation Instruction and Implementation in Federal E-Learning Science & Technology Conference.
O12. Craig, S. D., Bhat, K. R., Roscoe, R. D., Bernard, W., Gary, K., & Branaghan, R. (2020, August). Verification, Validation, and Experimental Testing for the PERvasive Learning System (PERLS). Poster presented at iFEST: Innovation Instruction and Implementation in Federal E-Learning Science & Technology Conference.
O13. (Poster) Craig, S. D., Roscoe, R. D., Branaghan, R., Gary, K., McNicol, S., & Barnard, W. PERvasive Learning System: Verification, Validation, and Experimental Testing. Presented at iFEST: Innovation Instruction and Implementation in Federal E-Learning Science & Technology Conference, Alexandria, VA. August 2019.
O14. (Presentation) *Stoll, R.D.*, Pina, A.A., Gary, K., & Amresh, A. Hispanic/Latino Youth evaluate the usability of a smartphone application designed for targeting anxiety symptoms. Presentation as part of organized symposia ('Innovative Mental Health Treatment Engagement Initiatives for Latino Families') at the 2019 Anxiety and Depression Association of America, Chicago IL. 2019.
O15. (Poster) *Stoll, R.D.,* Mendes, S., Thamrin, H., Pina, A.A., Gary, K., & Gonzales, N. Using mobile health tools to reduce anxious emotions in elementary school children. 2019 Society for Research on Child Development, Baltimore, MD. August 2019.
O16. (Talk). *Usability and mHealth applications, understanding the impacts of digital health technology*. Children's National Health System, July 2018.
O17. (Panel) Undergraduate software engineering education Chair: Chris Taylor, Panelists: Kevin Gary, James Kiper, Carol Wellington, Norha Villegas, Lily Chang. CSEE&T Savannah GA. November 2017.
O18. (Panel) *Stoll, R.D.* (chair), Pina, A.A., Gary, K., Johnson-Glenberg, M., Pincus, D., Beidel, D., & Pintello, D. Interdisciplinary Perspectives on Developing and Deploying Effective Mobile and Connected Mental Health Intervention Efforts for Youth and Families. Discussion Panel presented at the 2017 Association for Behavioral and Cognitive Treatments conference, San Diego, CA. November 2017.
O19. (Presentation) Pina, A.A., *Stoll, R.D.,* Gonzales, N., Gary, K., et al. Streamlined Indicated Prevention Targeting Anxious Youth in the Schools: A Hybrid-1 RCT and Matched Control Study Using Mobile Health Tools. Presented as part of organized symposia ('Little Treatments, Big Effects? New Developments in Very Brief Interventions for Child and Adolescent Anxiety') at the 2017 Anxiety and Depression Conference, San Francisco, CA. April 2017.

O20. (Abstract) Pina, A., Gary, K., *Stoll, R.*, Johnson-Glenberg, M. C., & Beidel, D. C. Interdisciplinary perspectives on developing and deploying effective mobile and connected health intervention efforts for youth and family. In *Annual Convention of the Association for Behavioral and Cognitive Therapies*. 2017.
O21. (Tutorial) Gary, K. Sohoni, S., and *Xavier, S**. "Agile Teaching and Learning", Workshop at the ACM/ASEE/IEEE Frontiers in Education Conference 2015 (FIE'15), El Paso, TX, October 2015.
O22. (Poster) *Stoll, R.D.,* Amresh, A., Gary, K., and Pina, A.A. "Using Gaming and Biosensors to Optimize Child Anxiety Prevention Efforts in Effectiveness Settings", The 2015 Society for Preventative Research Conference, Washington D.C., May 2015.
O23. (Poster) Bamshad A.K., Kojcev R., Wilson E., Gary K., Navab N., Cleary K. "Integrated and teleoperated system for wireless Robotic Natural Orifice Transluminal Endoscopic Surgery (R-NOTES)" The 2013 National Image-Guided Therapy Workshop, Washington D.C., June 2013.
O24. (Poster) Gary, K., Bansal, S., and Ghazarian, A. "A project spine framework for software engineering education" ACM SIGCSE, Denver CO, March 2013.
O25. (Talk) "Software Engineering for Medical Technologies: Emerging Trends", Innovation Rounds, Children's National Medical Center, July 2013.
O26. (Tutorial) Gary, K., Bansal, S., and Ghazarian, A. "Software Enterprise Pedagogy for Project Courses", Presented at the 26th Conference for Software Engineering Education & Training 2013, and the 16th Conference on Software Engineering and Applications 2012.
O27. (Poster) "The Software Enterprise: A reinforcing Pedagogical Model for Software Engineering Education", National Science Foundation Annual Conference for the Transforming Undergraduate Education in STEM (TUES/CCLI). Washington D.C. January 2011.
O29. (Poster) Applying Jazz Processes for Implementing the Software Enterprise" (with Harry Koehnemann) the 2009 International Conference on Software Engineering (ICSE ' 09) reception for IBM Jazz Innovation Awards, Vancouver, Canada, May 2009.
O30. (Abstract/Presentation) Acharya, R., Kagan, A., Gary, K., and *Subramanian, P.* "Webpage Design Metrics and Competition in Retail Banking" Annual Meeting of the Decision Sciences Institute, (DSI 2009), New Orleans, LA, November 2009.
O31. (Abstract/Presentation) Acharya, R., Kagan, A., Gary, K., and *Subramanian, P.* "Web Usability and Consumer Selection of Community Banks", Annual Meeting of the Decision Sciences Institute (DSI 2008), Baltimore, MD, November 2008.
O32. (Talk) "Models for Open Source Applications in Healthcare" presentation at Open Source Solutions for Multi-Center Information Management (MCIM 2007), St. Louis, MO, April 2007.
O33. (Tutorial) "Open Source Software Development Processes", Open Source Solutions for Multi-Center Information Management (MCIM 2007), St. Louis, MO, April 2007.
O34. (Talk) "Open Source Platforms" Infusion Software Tech Days, Gilbert, AZ, March 2007.
O35. (Interview) "The Other Kids on the Block: Commercial Providers Grow Up in the eLearning Space" *Interview in Syllabus magazine,* July 1, 2004.
O36. (Poster) Gannod, B., Koehnemann, H, and Gary, K. "Experiences Using Real Customer Projects for Academic Team Projects" National Conference for the American Society of Engineering Education (ASEE '03) Nashville, TN, June 2003.
O37. (Abstract) Cleary, K., Mun, S.K., Freedman, M., Zeng, J., Choi, J., Lindisch, D., Hum, B., Watson, V., and Gary, K. "Image-Guided, Minimally Invasive Spine Procedures: Intraoperative Imaging, 3D Visualization, and Robotics" American Telemedicine Association Conf (Abstract), April 2000.
O38. (Presentation) Cleary, K., Watson, V., Choi, J., Freedman, M., Zeng, J., Lindisch, D., Gary, K., Traynor, L., Mun, S.K., and Devey, G. "Minimally Invasive Spine Procedures: Mobile CT and 3D Visualization for Percutaneous Vertebroplasty". SMIT meeting, Boston, MA, September 1999.
O39. (Abstract/Presentation) Zeng, J., Traynor, L., Gary, K., Cleary, K., Levy, E., Kim, K.J., Yi, J.Y., Kim, K.H., Ra, J.B., and Mun, S.K. "A Three-dimensional Training System for Spine Needle Biopsy" 85th Scientific Assembly and Annual Meeting of the Radiology Society of North America. Chicago, IL, November 1999.
O40. (Presentation) Gary, K. (on behalf of the PCIS2 team) "Software Engineering Environments for Naval Fires Control System" ONR Program Review, 1999.
O41. Lindquist, T. (ed.) "PCIS2 Architecture Specification 1.0" US-France Technology Research and Development Project on Software Tools (*co-author of process services specification*), SPAWAR Systems Center, San Diego, CA, January 1998.
O42. (Presentation) Gary, K. "Open Process Components", NIST, August 1998.
O43. Cleary, K., Lathan, C., Platenberg, R.C. Gary, K., Traynor, L., and Wade, F; "Developing a PC-based spine biopsy simulator", Second Phantom Users Group Meeting, Dedham, MA, pp. 19-22, October 1997.

Technical Reports and Preprints:

TR1. *Das, S**., & Gary, K. (2025). Communication in Agile Software Development--A Mapping Study. *arXiv preprint arXiv:2504.*20186
TR2. Gary, K. and Koehnemann, H. "The Software Enterprise: A multi-year, multi-semester, and multi-project approach to software project coursework" TR-dcst-2005-103, Division of Computing Studies, Arizona State University. September 2005.
TR3. Gary, K., *Vijayan, L., Szabo, B., and Chapman, B.* "JMaPSS: Relevance-based Search for the Semantic Web" TR-dcst-2007-108, Division of Computing Studies, Arizona State University. January 2007.
TR4. *Jeyachandran, M.* and Gary, K. "WERCCS: A Client-side Component Workflow Framework Using AJAX" TR-dcst-2007-107, Division of Computing Studies, Arizona State University. January 2007.
TR5. Gary, K. and Koehnemann, H. "Component-based Deployment vs. Development: Experiences with Duct Tape and Glue" TR-dcst-2005-102, Division of Computing Studies, Arizona State University. September 2005.

TR6. Gary, K. "Open Process Components Specification History" TR-97-033, Computer Science and Engineering Department, Arizona State University. November 1997.
TR7. Koehnemann, H., Gary, K., and Lindquist, T. "Software Components with CORBA, Java, and the Internet" TR-97-032, Computer Science, Arizona State University. 1997.
TR8. Lindquist, T., Gary, K., and Koehnemann, H. "Representation of Component-based Workflow" TR-97-028, Computer Science and Engineering, Arizona State University. 1997.
TR9. Lindquist, T., Gary, K., and Koehnemann, H. "PCTE and its Implementations: Portos and Transtar" TR-97-027, Computer Science and Engineering, Arizona State University. 1997.
TR10. Gary, K., Koehnemann, H., and Lindquist, T. "Review of WfMC WAPI Specifications" TR-97-026, Computer Science and Engineering Department, Arizona State University. May 1997.
TR11. Sauer, L., Lindquist, T., Koehnemann, H., and Gary, K. "Towards Interoperable and Reusable Calendaring Components" TR-97-024, Computer Science and Engineering, Arizona State University. May 1997.
TR12. Gary, K., Lindquist, T., and Koehnemann, H. "Component-based Process Modeling" TR-97-022, Computer Science and Engineering, Arizona State University. May 1997.
TR13. Gary, K., Lindquist, T, and Koehnemann, H "Applying Open Process Components to the Software Process" TR-97-021, Computer Science & Engineering, Arizona State University. May 1997.
TR14. Gary, K. and Elgot-Drapkin, J. "A General Technique for Marker-Passing Using Feedback Control" TR-97-020, Computer Science and Engineering, Arizona State University. 1997.
TR15. Elgot-Drapkin, J., and Gary, K. RABIT: "Bridging Formal and Implementational Approaches to Commonsense Reasoning" TR-96-010, Computer Science and Engineering, Arizona State University. November 1996.
TR16. Gary, K., and Elgot-Drapkin, J. "Adaptive Control in Marker-Passing" TR-95-024, Computer Science and Engineering, Arizona State University. December 1995.
TR17. Gary, K., and Elgot-Drapkin, J. "RABIT: A Spreading Activation Approach to Commonsense Reasoning" TR-92-028, Computer Science and Engineering, Arizona State University. 1992.
TR18. Gary, K., and Elgot-Drapkin, J. "Ongoing Work on a Memory Model for Real-time Commonsense Reasoning" TR-92-006, Computer Science and Engineering, Arizona State University. 1992.

Graduate Student Mentoring:

Ph.D. Student Advising at Arizona State University

1. (current) Chair, Suddhasvatta Das
2. (past) Ishrat Ahmed, Sumit Gupta, Abhijit Chakrobaty, Nikola Pop Tomov
3. (completed) Committee Member, Cecilia LaPlace, Engineering Education and System Design, Arizona State University (Polytechnic). Chair: Shawn Jordan.
4. (completed) Committee Member, Henri Naccache, Computer Science and Engineering Department, Arizona State University (Tempe). Chair: Gerald Gannod.

Master's Degree Advising at Arizona State University

Thesis students (Chair)*:*

1. Anand, Rishikesh. *Measuring the Flow of Value and Quality in Open-Source Software.* June 2024.
2. Mondal, Anirrudha. *Regression Test Case Selection in Agile Environments.* Expected November 2023
3. Suresh, Disha. *Exploring the Applicability of Agile and Lean Metrics in Open-Source Projects*. November 2022.
4. Dass, S. *Predicting the Dropout of Students in MOOCs using Random Forest in Machine Learning Techniques*. May 2021.
5. Singal, V. *The Study of Gamification on mHealth Apps.* June 2019.
6. Rallabhandi, P. *A Study to Monitor mHealth Usability Quality in an mHealth application for youth with Sickle Cell Disease.* July 2017.
7. Kalsi, M.S. *A Tool to Reduce Defects due to Dependencies between HTML5, JavaScript, and CSS3*. June 2016.
8. Patwardhan, M*. Assessing the Impact of Usability Design Features of an mHealth App on Clinical Protocol Compliance Using a Mixed Methods Approach.* June 2016.
9. Xavier, S. *Continuous Assessment in Agile Learning using Visualizations and Clustering of Activity Data to Analyze Student Behavior.* May 2016.
10. Gupta, V. "Analyzing Design Dependencies in the HTML5, Javascript, and CSS3 Technology Stack", May 2014.
11. Kokoori, S. "Architecture Validation Tools for Technology-assisted Surgical Applications", May 2008.
12. Muffih, B. "Validation of Global State in a Component-based Surgical Toolkit", August 2008.
13. Sivaraman, A. "A Weighted Spreading Activation-based Search for the Semantic Web", January 2009.

Graduate Applied Project Students (culminating experience available for SE MS students until May 2018)

1. Krishnan, D.S.N. *(December 2017).* "An OAuth implementation for supporting mHealth Apps"
2. Jariwal, C., *(May 2017).* "Aspect-Oriented Programming in Hybrid Mobile Apps"
3. Jung-Lin, M. *May 2017).* "Design of a User Interface for a Pediatric Epilepsy mHealth App"
4. Tirnkey, A. *(December 2016)* "A Software Engineering Education Community Support Platform on Drupal"
5. Murphy, C. *(May 2016)* "NICEST: An Automated Deployment Tool for Project Teams"
6. Nguyen, T. (*May 2015*) "NoSQL Approaches for Air Quality Data".
7. Rao, S. (*May 2015*) "mHealth applications for Asthma Monitoring".
8. Tang, M. (*May 2015*) "iPhone App Design for Wound Assessment".
9. Adibhatla, A. (*May 2015*) "mHealth app to support PROMIS reporting"
10. Menthe, E. (December 2013) "E-portfolio Course Outcomes Implementation"
11. Mandal, S. (Fall 2011) "Distributed Version Control for Curriculum Creation and Evolution"

12. Verma, S. (Spring 2011) “Automated Analysis of Concept Maps”
13. Golapakrishnan, A. (Fall 2010) Area: e-portfolio applications
14. Rajendran, S. (Spring 2010) “Software Tools for Software Engineering Pedagogy”
15. Will, A. (Spring 2010) “GuitarFrets: Teaching Introductory Music on the Android Platform”
16. Das, S. (Spring 2010) “A Web Interface for Aggregating Multiple Assessment Results”
17. Nagappan, Y. (Spring 2010) “Industry-preparedness of Software Enterprise Alumni”
18. Doran, J. (Spring 2010) “Implementing Capture-Recapture in IBM Jazz”
19. Subramanian, P. (Spring 2009) “Web Usability Evaluation for Community Banking”
20. Verma, M. (Fall 2009) “Eye Tracking Flight Training Model”
21. Jeyachandran, J. (Fall 2008) “An Assessment Tool for MMET"
22. Dandibhotla, J. (Fall 2008) “Scene Graph Visualization for IGSTK”
23. Kottekatt, N. (Spring 2008) “Updating GATE for the Semantic Web”
24. Heidenreich, J. (2007) “An Architectural Investigation of the Open Source IGSTK Project”
25. Yazzie, R. (Summer 2007) “NHibernate Tutorial Using Object-Relational Concepts”
26. Baquar, S. (Spring 2007) “Quality Management Dashboard”
27. Janjua, T. (Spring 2007) “Arizona Yardsale Online”
28. Keswani, S. (Spring 2007) “Quality Management Dashboard”
29. Patil, S. (Spring 2007) “Quality Management Dashboard”
30. Radhakrishnan, J. (Spring 2007) “JMaPSS Visualization”
31. Sogani, A. (Spring 2007) “Quality Management Dashboard”
32. Bhootada, Y. (Fall 2006) “Quality Management Dashboard System”.
33. Konda, K. (Fall 2006) “Quality Management Dashboard”.
34. Lingham, R. (Fall 2006) “User Interface Impacts on Community Bank Website Usability”.
35. David, B. (Spring 2006) “Enterprise Integration using BPEL and Portals”.
36. Jeyachandran, M. (Spring 2006) “Inter-portlet Communication on the Client with AJAX”.
37. Vijayan, L. (Spring 2006) “Matching Ontology Descriptions for the Semantic Web”.
38. Krovi, K. (Spring 2006) “Web-based Personalized Search Using Web Services and Portlets”.
39. Addicam, V. (Fall 2005) “Inter-portlet Communication Using AOP and JNDI”.
40. Allen, C. (Fall 2005) “Data Warehousing and Analysis of NCAA Data”.
41. Joshi, K. (Fall 2005) “Development of a Database Layer for Process Definition Persistence”.
42. Vadlapatla, B. (Fall 2005) “Online Affinity Process Reporting”.
43. Akkunoor, P. (Fall 2004) “Enhancing Portfolio Management through CMS Integration”.
44. Li, X. (Spring 2004) “Web-based Online Student Loans Information System”.
45. Boddapati, S. (Spring 2004) “Investigating Integration Technologies for Portals”.
46. Noronha, S. (Spring 2004) “Development of a Web-based Production Management System”.
47. Alurkar, S. (Spring 2004) “Developing Asynchronous and Web Services Application Based on Existing Message-oriented Middleware Technology”.
48. Sandilya, N. (Spring 2004) “Programming Tool for Advanced Semiconductor Facility Design”.
49. Aluri, R. (Spring 2004) “Technical Report Management System”.
50. Albert, S. (Spring 2004) “PDA-driven Warehouse Inventory Management”.
51. Govindarajan, R. (Fall 2003) “Supplier Evaluation Using Data Envelopment Analysis”.

Teaching and Curricular Development Activities:

ASU numbers graduate courses at the 500-level or above at ASU, with some 400-level allowed
** indicates online development and/or instruction in addition to on-campus*
\+ indicates new course development

At Arizona State University (5xx indicates graduate course, 4xx is senior+graduate):

SER516+	Software Agility
SER335*+:	Engineering Secure Software Systems
SER222:	Data Structures and Algorithms
SER321*+:	Principles of Distributed Software Systems
SER322*:	Principles of Database Systems
SER515+:	Foundations of Software Engineering
SER421**+:	Web Applications and Mobile Systems *(developed and refreshed)*
SER422*+:	Web Application Programming
CST100*:	Object-Oriented Software Development
CST315*+:	Software Enterprise I: Tools and Process.
CST316*+:	Software Enterprise II: Construction and Transition.
CST415*+:	Software Enterprise III: Inception and Elaboration.
CST416+:	Software Enterprise IV: Process and Project Management.
CST425+:	Server Software Programming.
CST427+:	Distributed Object Systems.
CST433+:	Database Technology.
CST481+:	Information Systems Security
SER515+:	Foundations of Software Engineering
CST533+:	Database-centric Enterprise Application Development.
CET200:	Object-oriented Software Development II.

CET400: Software Engineering Technology.

At the Catholic University of America
CSC113: Introduction to Programming I (in C++).
CSC124: Computer Science II (in Java).
CSC641+: Database Management Systems. (graduate)
CSC636+: Distributed Computing. (graduate)

Additional Student Mentoring and Engagement Activities:
a. Honors Faculty Mentor, Gabrielle Meacham, *Assessing the Agile Mindset*, AY 2023-24.
b. Faculty Mentor, Capstone projects *CAssess* and *3D Skeletal Atlas*, AY 2022-23.
c. Faculty Mentor, BrainTracker pilot study, S. Gupta, E. Tung, Fall 2021.
d. Faculty Mentor, Bridges app redesign, S. Gupta, P. Bhanashulli, S. Gautier, A. Deore, Spring/Summer 2021.
e. FURI Mentor, Summer Gautier. Bridges mHealth app. Spring 2021.
f. Honors Faculty Mentor, Nithin Nallagula and Neha Shah, A portal management system for Compass for Courage. Spring 2021
g. FURI Mentor, Mason Cole, Fall 2019. BrainTracker mHealth app for Pediatric Epilepsy.
h. Honors Faculty Mentor, James Quigley, May 2018. A SlackBot for Managing ASU's State Press Live Newsfeeds.
i. Faculty Mentor, SCORE project for Agile TweetViz at the ICSE 2016 conference. *This student team was 1 of 3 global finalists (and the only one from the USA) for the SCORE competition*.
j. Faculty Mentor, #WEALLCODE, The Ira A. Fulton Schools of Engineering eSeed (entrepreneurship) program, AY 2015-16. *1 of 10 finalists for the eSeed competition carrying an award of $6K.*
k. Faculty Mentor, eProject with Apereo open source foundation, Academic Year 2014-15.
l. Faculty Mentor, eProject with General Motors, Academic Year 2014-15.
m. Faculty Mentor, iProject with the Boeing Company, Academic Year 2013-14. *This team presented a poster at the National Capstone Conference, Columbus OH, June 2014.*
n. Faculty Mentor, iProject Team Selection (iProject with 4 graduate students), Spring 2013.
o. Faculty Mentor for many student internships with Phoenix-area and national companies.
p. Faculty Mentor for many student independent study research projects at ASU.
q. Advised two Masters students at the Catholic University of America.
r. Reader on one Doctoral Dissertation at the Catholic University of America.

Service and Outreach Activities

Professional Service Activities:

- Special Issue Editor, *Artificial Intelligence Applications for Education*, MDPI Informatics, 2021.
- NSF Graduate Research Fellowship Reviewer
- NSF Panel Reviewer (various program panels)
- Program Committee 2020 Intl Conf Computer Science, Communication & Network Security
- Program Committee, 28th and 29th Conference on Software Engineering Education & Training (CSEE&T 2019-present).
- Program Committee, Software Engineering Department Heads Association, (SWEDHA)
- Program Committee, 26th IEEE International Conference on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE'17).
- Reviewer, (Journal), Reliability Engineering and System Safety, 2019-present.
- Reviewer, (Journal), PLOS ONE
- Reviewer, (Journal), Mathematics (Open Access Journal), 2019.
- Reviewer, (Journal), JMIR Research Protocols, 2016-present.
- Reviewer, (Journal) IEEE Transactions on Education, 2014-present.
- Reviewer, (Journal) Computers and Education, 2016-present.
- Reviewer, (Journal) IEEE Software (intermittent).
- Reviewer, (Journal) Explorations in Digital Health (2025).
- Editorial Board, Journal of Software Engineering and Applications (JSEA), 2013-present.
- Reviewer, (Journal) IET Software, 2013-present
- SEHC 2012 (4th International Workshop on Software Engineering in Health Care), workshop at the International Conference of Software Engineering (ICSE 2012), Program Committee.
- FIE (Frontiers in Education) 2012 Workshop, Panels, and Special Sessions Chair.
- NSF Transforming Undergraduate Education in STEM (TUES) Type 2&3 panel reviewer 2011.
- EntryPoint Expert Reviewer (Drexel University) February 2011.
- Reviewer (Journal), Scientific Research Essays, 2012.
- Reviewer (Journal), Entrepreneurship Theory and Practice 2010-present.
- Reviewer, International Journal of Engineering Education 2012-present.
- Reviewer (Journal), Software Practice and Experience 2010.
- Reviewer (Journal), IEEE Transactions on Services Computing 2008-2016.
- Reviewer (Journal), IEEE Internet Computing 2008-2010.
- Session Chair, Software Engineering Education: Community & Collaboration, Frontiers in Education (FIE08) Saratoga NY.
- Program Committee, International Conference on Software Engineering and Applications (SEA 2007), Cambridge, MA.
- Reviewer, Software Engineering Division, ASEE multiple years since 2005.
- Reviewer, Frontiers in Education Conference (Several years 2006 - present).

- Reviewer, 10th International Conference on Parallel and Distributed Systems (ICPADS 2004).
- Reviewer, IEEE Software Special Issue on Software Process Diversity (March 2000).
- Program Committee, Invited Session on Process Support for Distributed Team-based Software Development (PDTSD'99), at ISAS'99.

Service Activities, Arizona State University

- Chair, Graduate Program Committee, Software Engineering, SCAI/FSE, 2024-25.
- Member, Fulton Schools of Engineering Curriculum Committee, Fall 2024.
- Member, School Director Search Committee, SCAI/FSE, (2022).
- Member, Undergraduate Program Committee, Software Engineering (2023-24).
- Member, Academic and Program Planning Committee (APC, 2024-2025, Chair Spring 2024).
- Member, Faculty Search Committee (Lecturer), SCAI/FSE, (2022-23).
- Chair, Undergraduate Assessment Committee, 2021-22.
- Member, Promotion and Tenure Review Committee, School of Computing, Informatics, and Decision Systems Engineering, Ira A. Fulton Schools of Engineering (2014-16 and 2020-22).
- Member, Undergraduate Program Committee, Software Engineering (2020-23).
- Program Chair, Software Engineering, School of Computing, Informatics, and Decision Systems Engineering, The Ira A. Fulton Schools of Engineering (2016-2019).
- Chair, Lecturer Faculty Search Committee, Software Engineering, 2019.
- Member, Academic and Program Committee, School of Computing, Informatics, and Decision Systems Engineering, The Ira A. Fulton Schools of Engineering (2018-19).
- Chair, Graduate Program Committee for Software Engineering, School of Computing, Informatics, and Decision Systems Engineering, The Ira A. Fulton Schools of Engineering (2015-2016).
- Member, Faculty Search Committee (Lecturer), School of Computing, Informatics, and Decision Systems Engineering, The Ira A. Fulton Schools of Engineering (2016-17).
- Member, Faculty Search in Software Engineering, School of Computing, Informatics, and Decision Systems Engineering, Ira A. Fulton Schools of Engineering (2014-15).
- Member, Faculty Search Committees, Department of Engineering (2013-14).
- College of Technology & Innovation Collaboratory Council for Industry Outreach, 2012-14.
- Member, Promotion and Tenure Committee, Department of Engineering 2012-14.
- Lead, iProjects Faculty Working Group (ad hoc), Fall 2012.
- Associate Chair of Engineering, responsible for computing degree programs (2010-2011).
- Chair, Faculty Search Committee, Lecturer and Tenure-track Professor positions (2011).
- Member, Graduate Program Committee, Department of Engineering (2010-11).
- Member, ad hoc committee for first-year engineering fusion (2010-11).
- Chair, Undergraduate Committee, Department of Engineering (2010-11).
- Member, Faculty Search Committee, Department of Engineering (2010-11).
- Member, Faculty Search Committee, Department of Engineering (2009-10).
- Member, ad hoc committee to develop the B.S. in Software Engineering (2009-10).
- Member, ad hoc committee to develop Vision 2.0 for Engineering (2009-10).
- Member, ad hoc committee for the integration of computing programs in the Dept of Engineering (Spring 2009-10).
- Member, Graduate Committee (2008-10, 2023-).
- Member, Faculty Search Committee (2007 and 2008).
- Chair, Graduate Program Committee (2006-08).
- Member, ad hoc committee for the creation of joint undergraduate program concentrations with the Morrison School of Management and Agribusiness (2007-2008).
- Member, ad hoc committee for the creation of a joint bachelor degree program in Software Engineering with Computer Science and Engineering at ASU's Tempe Campus (2005-07).
- Graduate Student Advisor (2004-09, 2011).
- Member, Undergraduate Curriculum Committee, Division of Computing Studies (2004-06).
- Member, CTAS Graduate Program of Study Committee (2004-06).
- Participated in DCS self-study preparation for accreditation (2004-05).

Service Activities at the Catholic University of America, January 1999-May 2000:

- Chair, Ad Hoc Committee for the Graduate Program in Computer Science.
- Member, Ad Hoc Committee for the Undergraduate Program in Computer Science.
- Member, University Committee on Computing Needs.
- Member, Faculty Search Committee in Electrical Engineering (Fall 1999)
- Member, Faculty Search Committee in Computer Science (Spring 1999)

Special Outreach Activities:

- StartupWeekend@ASU (April 2009) – *Put on an entrepreneurship workshop with 65 participants including students, industry sponsors, and community mentors. Students worked in teams to launch a software business in one weekend.*
- Software Enterprise projects with industry sponsors – *40+ projects since 2006 in the Software Enterprise, 30+ with industry sponsors. The projects provide an avenue to interact with industry, develop relationships, and promote a strong message through our students.*

- DEAC – *the Distributed and Enterprise Applications Consortium conducted industry outreach in the area of distributed enterprise applications. DEAC enlisted over 2 dozen companies including Google, Sun Microsystems, and IBM before disbanding in 2008.*
- ART review member (http://atic.asu.edu) – *ATIC review team member, meeting with industry representatives and evaluating potential ASU opportunities through the center.*
- JACMET training in the software engineering certification program – *Developed and taught courses in Software Requirements, Architecture and Design, UML, and Agile Development Practices to large companies including Boeing, Raytheon, Honeywell, and General Dynamics*.
- Advisory Board Member, Mesa Community College Software and Quality Assurance Program

Professional Societies:
- Association for Computing Machinery (ACM)
- The Institute of Electronics and Electrical Engineers (IEEE), Computing Society
- American Society for Engineering Education (ASEE) Software Engineering Division

Other Appointments and Professional Activities:
Senior Advisor, ISIS Center, Georgetown University, Washington, D.C., 1997 – 2010.
- Multidisciplinary applied research in software engineering with biomedical engineering
- Participant in the open-source Image-Guided Surgery Toolkit (www.IGSTK.org)

Research Intern (mentor: Dr. Karl Kempf), The Intel Corporation, Chandler AZ, 1992. (Graduate School)
- Applied research in job-shop scheduling techniques to optimize throughput at a semiconductor manufacturing facility.

Graduate Student Assistantships, Arizona State University, 1993 – 1999. (Graduate School)
- RA for Navy's PCIS2 project with French MOD, authored process specification
- RA in active logics, limited reasoning agents, cognitive search algorithms
- TA for Programming, Programming Languages, AI, and Data Structures courses, Instructor for Programming in LISP.

Undergraduate Student Assistant, State University of New York at Albany, 1988-1989. (Undergraduate)
- TA for Discrete Mathematics and System Administration.
- Assistant to Computing Center Professional programming in REXX and COBOL on IBM 3051KX mainframe.
- Student supervisor for approximately 40 student assistants in university computing labs.

Software Engineer, Image Systems Technology. Troy, NY, 1991. (Graduate School)
- Software Engineer for raster processing and vector conversion software.

Consulting (*engagements periodic during listed periods*):

Software Architect, Children's National Medical Center, Washington D.C. 2011-2016
- Research project within BioEngineering division of the Sheik Zayed Center for Pediatric Surgical Innovation.
- System domains including image-guided and micro-robotic surgery
  - Created a new design pattern for IGSTK (open source) safety
  - Designed & implemented a ZigBee system for robotic Natural Orifice Transluminal Endoscopic Surgery (R-NOTES).
- Mobile applications for pediatric patients including a tablet-based home asthma monitor, a pain reporting application for teenagers with sickle cell disease, and an Epilepsy evaluation app for middle schoolers.

Multiple training engagements for RocketGang, UNICON, and SEEX Phoenix AZ, 2004-2011
- Training delivery in software engineering topics, including Java, Eclipse, SOA, UML, portals, Agile methods, Requirements Engineering, Software Quality, Software Architecture, etc. to customers including UC-Irvine, Raytheon, Boeing, Honeywell, and General Dynamics.

UNICON, Inc. Chandler, AZ, 2004-2017
- Multiple successful engagements with clients including large publishing houses. Provided scalability troubleshooting, architecture and design evaluations, and requirements analysis.
- CTO-level advisor and senior technical architect practitioner focused on client solutions.

Awards and Honors:

- Nominated (by students) Professor of the Year, ASU Polytechnic Campus, Spring 2025.
- Nomination (by department chair), ASU CTI Excellence in teaching/instruction, 2014
- Nomination (by department chair), ASU Curriculum Innovations Award program, 2013
- ASU President's Award for Innovation, iProjects program, Spring 2012
- Featured Faculty Nominee (Student nominations for faculty, April 2006)
- Upsilon Pi Epsilon National Computer Science Honor Society.
- ARCs Foundation Scholar, 1997 – 1998.
- Graduated *summa cum laude*, State University of New York at Albany, 1989.
- Employee of the Month, Unicon, Inc. August 2003.
- Employee of the Month, Global Associates Ltd., February and April 1995.