Young Lee, Ph.D.

The Department of Computational, Engineering, and Mathematical Sciences
College of Arts and Sciences, Texas A&M University-San Antonio
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EDUCATION:

Ph.D., Computer Science and Software Engineering, Auburn University, 2007
M.S., Computer Science, Hallym University, South Korea, 1991
B.S., Computer Science, Hallym University, South Korea, 1989

EMPLOYMENT:

2026-present **Professor**
Department of Computing, Engineering, and Mathematical Sciences,
College of Arts and Sciences, Texas A&M University-San Antonio

2023-2026 **Associate Professor**
Department of Computing, Engineering, and Mathematical Sciences,
College of Arts and Sciences, Texas A&M University-San Antonio

2024- present Graduate Program Coordinator for the M.S. program in Computer Science and M.S. program in Cyber Security, Texas A&M University-San Antonio

2018-2023 **Associate Professor & Graduate Coordinator** (**2018-2020**)
Department of Computing and Cyber Security,
College of Business, Texas A&M University-San Antonio

2014-2018 **Associate Professor & Graduate Coordinator**
Department of Electrical Engineering and Computer Science,
Frank H. Dotterweich College of Engineering,
Texas A&M University-Kingsville

2007-2014 **Assistant Professor & Graduate Coordinator**
Visiting Assistant Professor (2007)
Department of Electrical Engineering and Computer Science,
Frank H. Dotterweich College of Engineering,
Texas A&M University-Kingsville

2006-2007 **Visiting Assistant Professor**
Department of Computer and Software Engineering
Embry Riddle Aeronautical University

2002-2006	**Assistant Professor** Department of Computer Science, Western Illinois University
1998-2002	**Research Assistant & Teaching Assistant** Department of Computer Science and Software Engineering Samuel Ginn College of Engineering, Auburn University
1991-1998	Research Engineer C3I (Command, Control, Computer and Intelligence), EW (Electronic Warfare) Division, Agency for Defense Development (ADD), South Korea Responsible for designing and developing a security architecture of Command, Control, Communications and Intelligence (C3I) system and a real-time secure Jamming Management Software of Electronic Warfare (EW) system for warships.

FUNDED EXTERNAL GRANTS:

11/1/26 10/31/30	**Co-PI, $499,993** Source: Department of Justice Title: The Jaguar CARE Initiative: Coordinated Action for Response and Empowerment to Prevent and Address VAWA Crimes at a Hispanic-Serving Institution With PI: Claire Braaten & Co-PI: Sunguook Lee
9/1/2024- 8/31/2026	**Co-PI, (PI-TAMUSA, $28,965, Total Amount: $79,977)** Source: **CAHSI-Google Institutional Research Program** Title: Towards the Safety and Security Gap of Integrating LLMs into Software With PI: Bozhen Liu at TAMUCC
1/2024- 12/2026	**Co-PI, $385,475** + $14,516 Google Cloud credits Source: **National Science Foundation (NSF), Award #2334243** Title: CAP: AI-Ready Institution Transforming Tomorrow's Research and Education with AI Focused on Health and Security (Jag-AI) With PI: Yang & Co-PIs: Cao & Liang
10/1/2021- 9/30/2024	**Co-PI, $299,897** + $12,000 Google Cloud credits Source: **National Science Foundation (NSF), Award #2131193** Title: CISE-MSI: RCBP-RF: S&CC: Building a Smart Mobility Network for the San Antonio Transit to Improve Transit Service and Social Impact With PI: Yang & Co-PIs: Alsmadi, Abdel-Rahman, Delgado, & Cao (SP)
10/1/2014- 9/30/2021	**PI, $1,199,730** Source: **National Science Foundation (NSF), Award # 1439861** Title: Phase I Robert Noyce Teacher Scholarship Program: Future STEM Teachers in South Texas (F(ST)^2), With Co-PIs: Park, Wong-Ratcliff, Ahangar,

& Castro, Yang (SP), relinquished PI to Park (2018)

7/1/2016-	**PI-TAMUK, $48,642, Total Amount: $447,763 for collaborative research.**
9/30/2018	Source: **National Science Foundation (NSF), Award # 1557278** Title: Collaborative Research: Understanding Robert Noyce Teacher Scholarship Outcomes in Texas. With lead PI-C. Horn at University of Houston. Other Collaborative Universities: Stephen F. Austin University, University of Houston - Clear Lake, University of Houston, University of Houston - Downtown, University of Texas at Austin, University of Texas at Arlington, Texas State University, Texas A&M University-Kingsville
9/1/2012-	**PI**, **$775,775**
2/28/2015	Source: **Health Resource and Services Administration (HRSA), Award# H9CRH2288**, Title: HINSTX (Health Information Network of South Texas) Rural HIT Network Program With Co-PI: V. Bartelt
10/1/2012-	**PI**, **$291,352**
9/30/2015	Source: **National Science Foundation (NSF), Award # 1239993** Title: Robert Noyce Teacher Scholarship Program Capacity Building: Future STEM Teachers in South Texas (F(ST)^2) With Co-PIs: Park, Wong-Ratcliff, Nijim, & Ahangar
1/1/2014-	**PI**, **$8,000**
1/31/2014	Source: Corpus Christi Diabetes Community Coalition Title: DCCDatabase - Diabetes Database Management System for Coastal Bend Diabetes Community Coalition
11/1/2011-	**PI**, **$7,483**
10/30/2012	Source: Kiewit Offshore Services, Ltd. Title: Construction Scheduling with Primavera P6 for Kiewit Olympus TLP
9/1/2008-	**PI**, **$2,400**
8/31/2009	Source: National Science Foundation (NSF) Title: Center for the Advancement of Scholarship on Engineering Education (CASEE) with support

PUBLICATIONS: PEER-REVIEWED JOURNALS (* indicates student)

- **Y. Lee**, S. Boshra*, J. Yang, Z. Cao, G. Liang, "Machine Learning-Based Vulnerability Detection in Rust Code Using LLVM IR and Transformer Model," Machine Learning and Knowledge Extraction, 2025, https://doi.org/10.3390/make7030079
- **Young Lee**, Ernesto Diaz*, Jeong Yang, and Bozhen Liu, "Enhancing Concurrency Bug Detection in Rust Programs Through LLVM IR Based Graph Visualization," High-

Confidence Computing Journal, 2025. https://www.sciencedirect.com/science/article/pii/S2667295225000819

- Julia Gomezrangel*, Alvaro Vazquez*, **Young Lee**, Kadir Alpaslan Demir* and Bozhen Liu, "Rising Fast, Prone to Risk: How Open-Source LLM-Powered Apps Are Designed and Secured," International Journal of Semantic Computing, 2026
- R. Jonnala*, J. Yang, **Y. Lee**, G. Liang and Z. Cao, "Measuring and Improving the Efficiency of Python Code Generated by LLMs Using CoT Prompting and Fine-Tuning," in IEEE Access, vol. 13, pp. 119657-119681, 2025, doi:10.1109/ACCESS.2025.3585742.
- Daniel Delgado, Jeong Yang, Mohammad Al-Ramahi, **Young Lee**, "Routes of Inequality and Enclaves of Exclusion: Understanding Public Transit's Role in Race and Class Segregation and Mobility Disparities in San Antonio, Texas," Critical Sociology Journal, 2025. https://journals.sagepub.com/doi/10.1177/08969205251355278
- B. Kishiyama*, **Y. Lee**, J. Yang, "Improving VulRepair's Perfect Prediction by Leveraging the LION Optimizer," Applied Sciences 14, no. 13: 5750. https://doi.org/10.3390/app14135750.
- Y. R. Kim, J. Yang, **Y. Lee** and B. Earwood, "Assessing Cybersecurity Problem-Solving Skills and Creativity of Engineering Students Through Model-Eliciting Activities Using an Analytic Rubric," in *IEEE Access*, vol. 12, pp. 5743-5759, 2024, doi: 10.1109/ACCESS.2023.3348554.
- **Y. Lee**, J. Yang, M. Abdel-Rahman, & D. Delgado, "SmartSAT: A Customizable Mobile-Web App toward Improving the Efficiency and Equitable Access of San Antonio Public Services," 2024, Software Impacts Journal. SSRN: http://dx.doi.org/10.2139/ssrn.4700599
- T. Kim, J Ochoa, T Faika, A Mantooth, J Di, Q Li, **Y Lee**, "An Overview of Cyber-Physical Security of Battery Management Systems and Adoption of Blockchain Technology," 2022 *IEEE Journal of Emerging and Selected Topics in Power Electronics*. doi: 10.1109/JESTPE.2020.2968490. https://ieeexplore.ieee.org/document/8964396.
- J. Yang, **Y. Lee**, A. Hernandez, & J. Sanchez*, "Evaluating and Securing Text-Based Java Code through Static Code Analysis," *Journal of Cybersecurity Education, Research and Practice*, Vol. 2020: No. 1, Article 3. https://digitalcommons.kennesaw.edu/jcerp/vol2020/iss1/3/
- Kim, T.; Makwana, D.; Adhikaree, A.; Vagdoda, J.S.; **Lee, Y**. Cloud-Based Battery Condition Monitoring and Fault Diagnosis Platform for Large-Scale Lithium-Ion Battery Energy Storage Systems. *Energies 2018*, *11*, *125*. https://doi.org/10.3390/en11010125.
- J. Yang, **Y. Lee**, and Kai H. Chang, "Evaluations of JaguarCode: A Web-Based Object-Oriented Programming Environment with Static and Dynamic Visualization," *The Journal of Systems and Software (2018*), DOI: 10.1016/j.jss.2018.07.037. https://www.sciencedirect.com/science/article/abs/pii/S016412121830147X
- **Y. Lee**, M. D. Bhargavan*, & J. Yang, "Teaching Test-Driven Development Using Dojo ", *Journal of Computing Sciences in Colleges*, Volume 32 Issue 4, ACM Digital Library, April 2017. https://dl.acm.org/doi/abs/10.5555/3055338.3079049

- M. N. Rahman*, M. N. Hossain*, & **Y. Lee,** "Collapsible Tabular Visualization of Aspects in Object Oriented Programming", *GSTF Journal on Computing*, Vol.5 No.3, 2017. http://dl6.globalstf.org/index.php/joc/article/view/1877/2301
- A. Ghosh* & **Y. Lee**, "An Empirical Study of a Hybrid code clone detection approach on Java byte code", Journal on computing", *GSTF Journal on Computing*, Vol.5 No.2, 2017. http://dl6.globalstf.org/index.php/joc/article/view/1781/2309
- K. Shah*, J. Yang, **& Y. Lee**, "Enhancing Engineering Education Using Virtual Lab Technology", Transactions on Techniques in STEM Education, Vol. 1 No. 4, 2016.
- J. Yang, **Y. Lee**, S. Park, M. Ratcliff, and R. Ahangar, "Discovering the Needs Assessment of Qualified STEM Teachers for the High-Need Schools in South Texas", *Journal of STEM Education*, Vol 16., Issue 4, 2015. https://www.jstem.org/jstem/index.php/JSTEM/article/view/1948/1699
- P. Koyya*, **Y. Lee**, and J. Yang, "Feedback for Programming Assignments Using Software-Metrics and Reference Code," International Scholarly Research Notices (ISRN) Software Engineering, Vol. 2013, Article ID 805963, 2013. doi:10.1155/2013/805963.
- Hyung J. Yoo*, **Y. Lee**, "Use of Cell Block as an Indent Space in Python", International Journal of Software Engineering, Vol 4., No. 1, pp. 33-43, 2013.
- N. Yilmazer, Kuo-Jen Liao, **Y. Lee**, J. Mora*, William Webb*, Remzi Seker, "A New Generation Air Pollution Alert System: Integrating Air Quality Models and Location-Aware Mobile Devices", International Journal of Environmental Monitoring and Analysis. Vol. 1, No. 1, pp. 21-26, 2013.
- T. H. Kang*, **Y. Lee**, and M. Nijim, "Task-Based Visualization using Merged View", Journal of Communication and Computer, Vol 9. pp. 665-668, 2012.
- **Y. Lee**, V. C. Rajasekar* and P. R. Kasula*, "Accessibility of Website for Visually Challenged: Combined Tree Structure and XML Metadata", GSTF Journal on Computing, Vol.2 No.1. pp. 7-10, 2012.
- **Y. Lee** and J. Yang, "Locating Reusable Classes Using Dependency in Object-Oriented Software", GSTF Journal on Computing, Vol.2 No.1. pp.134-139, 2012.
- M. Nijim**, Y. Lee**, N. Yilmazer, and R. Seker, "A data mining algorithm for multi-level prefetching in storage systems", Ubiquitous Computing and Communication Journal, pp. 10-19, 2011.
- R., V.C.S., **Lee, Y**., Schreur, B. (2010). Accessing Web Based Multimedia Contents for the Visually Challenged: Combined Tree Structure and XML Metadata. In: Sobh, T. Innovations and Advances in Computer Sciences and Engineering. Springer, Dordrecht. https://doi.org/10.1007/978-90-481-3658-2_80.
- **Lee, Y**., Yang, J., Chang, K.H. (2010). Identifying Connected Classes for Software Reuse and Maintenance. In: Sobh, T. Innovations and Advances in Computer Sciences and Engineering. Springer, https://doi.org/10.1007/978-90-481-3658-2_68.

- K., S., J., O., **Lee, Y.** (2010). Mobile Application for Healthcare System - Location Based. In: Sobh, T. (eds) Innovations and Advances in Computer Sciences and Engineering. Springer, Dordrecht. https://doi.org/10.1007/978-90-481-3658-2_51.

PUBLICATIONS: PEER-REVIEWED CONFERENCE PAPERS (* indicates student. **All papers were presented at the international level conference**.)

- Yuktha Priya Masupalli*, Young Lee, "Benchmark Leakage in AI-Based Rust Vulnerability Detection: An Empirical Audit of Code Embeddings, Static Analysis, and Dataset Quality," IEEE Artificial Intelligence x Software Engineering (AIxSE), 2026
- Ernesto Diaz*, Mark Solis*, Young Lee, Jeong Yang, Deep Gandhi, "LVing: A Vulnerability Detection and Visualization Platform for Rust," 2026 IEEE/ACM 48th International Conference on Software Engineering Demonstrations Track
- Mark Solis*, Young Lee, "LVing: A Graph-Based Visualization Tool for Teaching Rust Memory Safety," 4th International Workshop on evaLuation and assEssment in softwARe eNgineers' Education and tRaining (LEARNER), 2026
- Zeyad Abdelrazek*, Young Lee, "Symbolic Execution Meets Multi-LLM Orchestration: Detecting Memory Vulnerabilities in Incomplete Rust CVE Snippets," The 6th International Workshop on Software Security Engineering, 2026
- Julia Gomez-Rangel*, Young Lee, Bozhen Liu, "Security in the Wild: An Empirical Analysis of LLM-Powered Applications and Local Inference Frameworks," 2nd ACM International Conference on AI-powered Software (AIware 25), (Invited to International Journal of Semantic Computing)
- Julia Gomezrangel*, Alvaro Vazquez*, Young Lee, Kadir Alpaslan Demir* and Bozhen Liu, "Rising Fast, Prone to Risk: How Open-Source LLM-Powered Apps Are Designed and Secured," International Conference on AI x Software Engineering (AIxSE 2025)
- Young Lee, Mohammed Tausif Ansari*, and Jeong Yang, "A Comparative Analysis of Taint Analysis Tools: Enhancing Security Through Combined Static Analysis Approaches," Twenty Fourth International Conference on Security & Management (SAM'25)
- Demetrio Deanda*, Yuktha Masupalli*, Jeong Yang, Young Lee, Zechun Cao and Gongbo Liang, "Benchmarking the Robustness of Contrastive Learning Models for Medical Image-Report Retrieval under Occlusion Attacks." In the 39th AAAI Conference on Artificial Intelligence Workshop on Health Intelligence. Feb 5 -- Mar 4, 2025. Philadelphia, PA.
- Jeong Yang, Hongyu Wang*, Young Lee, "Evaluating the Usability, Performance, and Cost-Efficiency of Deploying ML Models on Cloud Computing Platforms," 2025 the 9th International Conference on Cloud, Big Data and Communication Systems (ICCBDCS 2025)
- Ahmad Elallaf, Yu Zhang, Yuktha Priya Masupalli, Jeong Yang, Young Lee, Zechun Cao, Gongbo Liang, "MedProbCLIP: Probabilistic Adaptation of Vision–Language Foundation Model for Reliable Radiograph–Report Retrieval," IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) Workshop on Large Foundation Models in Biology and Biomedicine, (Submitted: Nov 24, 2025, Accepted Jan 3, 2026)

- H. Wang*, J. Yang, G. Liang, **Y. Lee**, Z. Cao, "Analyzing the Usability, Performance, and Cost-Efficiency of Deploying ML Models on BigQuery ML and Vertex AI in Google Cloud," International Conference on Cloud and Big Data Computing (ICCBDC), 2024.
- Bonian Han, Cristian Moran, Jeong Yang, **Young Lee**, Zechun Cao, Gongbo Liang, "Multi-Scale Self-Supervised Consistency Training for Trustworthy Medical Imaging Classification," International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC) 2024.
- J. Yang, **Y. Lee**, Abstract: "Enhancing Urban Mobility: SmartSAT's Impact on Public Transportation Services and Commuting," ASEE Annual Conference & Exposition 2024.
- **Y. Lee**, J. Yang, & Y. R. Kim, "Adopting Model-Eliciting Activities in an Undergraduate Software Engineering Course through Real-World Projects," IEEE Frontiers in Education Conference (FIE), 2023.
- **Y. Lee**, A. McDonald*, & J. Yang, "Identifying Code Tampering Using A Bytecode Comparison Analysis Tool," 2023 IEEE/ACIS International Conference on Software Engineering Research, Management and Applications (SERA 2023).
- J. Yang, **Y. Lee**, W. Noonan*, and A. Abraham*. 2022. Demo Abstract: SmartSAT - A Customizable Secure App for San Antonio Transit Pilot Project. In Proceedings of the 20th ACM International Symposium on Mobility Management and Wireless Access (MobiWac '2022). https://doi.org/10.1145/3551660.3560910.
  Selected ACM Research Showcase on Kudos:
  https://www.growkudos.com/publications/10.1145%25252F3551660.3560910/reader
- M. Abdel-Rahman, I. Alsmadi, D. Delgado, & **Y. Lee**, Prediction and Analysis of Bus Adherence to Scheduled Times: San Antonio Transit System, 2022 Annual Americas Conference on Information Systems (AMCIS).
  https://aisel.aisnet.org/amcis2022/sig_dsa/sig_dsa/9/
- **Lee, Y**., "Visualizing Static Analysis Warnings by Dynamic Trace". Springer Nature Book: Transactions on Computational Science & Computational Intelligence-Advances in Security, Networks, and Internet of Things (SAM 2021). ISBN # 1-60132-514-2
- Tang, C.*, & **Lee, Y.** "Applying Equivalent Mutant to Refactoring the Security Vulnerabilities". Springer Nature Book: Transactions on Computational Science & Computational Intelligence-Advances in Security, Networks, and Internet of Things (SAM 2021). ISBN # 1-60132-514-2
- **Y. Lee** & J. Yang, "Visualization of Context Sensitive Data Flow for Secure Object-Oriented Programming," International Conference on Software Engineering Research and Practice (SERP), July 2019.
  https://www.kriso.ee/software-engineering-research-practice-db-9781601325105.html
- **Lee, Y**., & Yang, J. (2019, April), *Reverse Engineering Environment for Teaching Secure Coding in Java* Paper presented at 2018 ASEE Gulf Southwest Section Conference, AT&T Executive Education and Conference Center. https://peer.asee.org/31596.

- J. Yang, A. Lodgher, and **Y. Lee**, "Secure Software Engineering Modules for Undergraduate Software Engineering Courses", 2018 IEEE Frontiers in Education (FIE): Fostering Innovation Through Diversity. https://ieeexplore.ieee.org/document/8658433
- S. S. Kumbhar*, **Y. Lee** and J. Yang, "Hybrid Encryption for Securing SharedPreferences of Android Applications," *2018 1st International Conference on Data Intelligence and Security (ICDIS)*, 2018, pp. 246-249, doi: 10.1109/ICDIS.2018.00047. https://ieeexplore.ieee.org/document/8367771
- S. Kumbhar, T. Faika, D. Makwana, T. Kim and **Y. Lee**, "Cybersecurity for Battery Management Systems in Cyber-Physical Environments," *2018 IEEE Transportation Electrification Conference and Expo (ITEC),* 2018, pp. 934-938, doi: 10.1109/ITEC.2018.8450159. https://ieeexplore.ieee.org/document/8450159
- A. Adhikaree, T. Kim, J. Vagdoda, A. Ochoa, P. J. Hernandez and **Y. Lee**, "Cloud-based battery condition monitoring platform for large-scale lithium-ion battery energy storage systems using internet-of-things (IoT)," 2017 IEEE Energy Conversion Congress and Exposition (ECCE), 2017, pp. 1004-1009, doi: 10.1109/ECCE.2017.8095896. https://ieeexplore.ieee.org/document/8095896
- J. Yang, **Y. Lee** and K. H. Chang, "Initial Evaluation of JaguarCode: A Web-Based Object-Oriented Programming Environment with Static and Dynamic Visualization," *2017 IEEE 30th Conference on Software Engineering Education and Training (CSEE&T)*, 2017, pp. 152-161, doi: 10.1109/CSEET.2017.32. https://ieeexplore.ieee.org/document/8166696
- J. Yang, **Y. Lee**, D. Gandhi* and S. G. Valli*, "Synchronized UML diagrams for object-oriented program comprehension," *2017 12th International Conference on Computer Science and Education (ICCSE)*, 2017, pp. 12-17, doi: 10.1109/ICCSE.2017.8085455. https://ieeexplore.ieee.org/document/8085455/similar#similar
- Oh, J.; **Lee, Y.**; Gharehgozli, Amir Hossein (2016). Developing Early Risk Detection and Preparedness System with Risk Analysis and Contingency Plan. Mary Kay O'Connor Process Safety Center; Texas &M University. Libraries. Available electronically from https://oaktrust.library.tamu.edu/handle/1969.1/193647
- J. Yang, **Y. Lee**, and D. Hicks "Synchronized Static and Dynamic Visualization in a Web-Based Programming Environment," IEEE International Conference on Program Comprehension (ICPC), 2016, doi: 10.1109/ICPC.2016.7503733. https://ieeexplore.ieee.org/document/7503733
- M. Srinivasan*, J. Yang and **Y. Lee,** "Case studies of optimized sequence diagram for program comprehension," *2016 IEEE 24th International Conference on Program Comprehension (ICPC)*, 2016, pp. 1-4, doi: 10.1109/ICPC.2016.7503734. 12 Google citations. https://ieeexplore.ieee.org/document/7503734
- B. Earwood*, J. Yang and **Y. Lee**, "Impact of static and dynamic visualization in improving object-oriented programming concepts," *2016 IEEE Frontiers in Education*

Conference (FIE), 2016, pp. 1-5, doi: 10.1109/FIE.2016.7757639. https://ieeexplore.ieee.org/document/7757639

- M. Srinivasan*, **Y. Lee** and J. Yang, "Enhancing Object-Oriented Programming Comprehension Using Optimized Sequence Diagram," 2016 IEEE 29th International Conference on Software Engineering Education and Training (CSEET), 2016, pp. 81-85, doi: 10.1109/CSEET.2016.37. https://ieeexplore.ieee.org/document/7474469?reload=true
- J. Yang, **Y. Lee**, D. Hicks and K. H. Chang, "Enhancing object-oriented programming education using static and dynamic visualization," 2015 IEEE Frontiers in Education Conference (FIE), 2015, pp. 1-5, doi: 10.1109/FIE.2015.7344152. https://ieeexplore.ieee.org/document/7344152
- J. Oh, **Y. Lee**, N. Yilmazer, K. Raman, & L. Peel, "Risk Mitigation in Mass Evacuation with Evacuation Routing Aid and Procedure", 4th International Conference on Disaster Management and Human Health: Reducing Risk, Improving Outcomes, 20 - 22 May 2015, Istanbul, Turkey.
- J. Oh, **Y. Lee**, N. Yilmazer and K. Raman, "Decision Making in Evacuation From Disaster" Proceedings of the International Association for Computer Information Systems (IACIS), 2014. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.567.7220&rep=rep1&type=pdf
- K. Shah*, A. Ghosh*, Md Naim Hossein*, **Y. Lee**, "Enhancing Engineering Educational Using Virtual Lab Technology," Zone 1 Conference of the American Society for Engineering Education (ASEE), Bridgeport, Connecticut, 2014. https://monolith.asee.org/documents/zones/zone1/2014/Student/PDFs/180.pdf
- **Y. Lee,** J. Oh, N. Yilmazer, A. Ghosh*, Md Naim Hossein*, "An Integrated Emergency Evacuation System for Real-Time Operations - A Case Study of the Eagle Ford Shale Gas Area, South Texas," Shale Energy Engineering, pp. 502-511, 2014. https://ascelibrary.org/doi/10.1061/9780784413654.053
- J. Oh, **Y. Lee**, & N. Yilmazer, "Realtime Mobile Evacuation Routing Systems", IACIS 2013 International Conference, San Juan, Puerto Rico, 2013.
- N. Mantrawadi*, M. Nijim, & **Y. Lee**, "Object identification and classification in a high resolution satellite data using data mining techniques for knowledge extraction", Proceeding pp.750-755, IEEE International Systems Conference (SYSCON), 2013.
- N. Yilmazer, K. Liao, **Y. Lee**, J. Mora*, and W. Webb*, "Development of A Real-Time Air Pollution Alert System Using Smart Phones", Proceedings of the International Conference on Distributed Multimedia Systems (DMS), pp. 39-41, 2012.
- M. Nijim, **Y. Lee**, and K. Bellam, "HyBuM: Hybrid Energy Efficient Architecture for Mobile Storage Systems", Proceedings of IEEE International Conference on Information Technology : New Generations (ITNG), pp. 214-220, 2012

- **Y. Lee** and J. Yang, "Identifying Architectural Changes Using Software Metrics", Proceedings of the International Conference on Software Engineering Research and Practice (SERP), pp. 370-375, 2010.
- H. Yoo* and **Y. Lee**, "Software Visualization: Replacing Tab in Python Programming with Cell Block in Spreadsheet", Proceedings of the International Conference on Software Engineering Research and Practice (SERP), pp. 76-79, 2010.
- T. Kang***, Y. Lee**, and Wei-Dao, "Task-Based Visualization for Software Maintenance", Proceedings of the International Conference on Software Engineering Research and Practice (SERP), pp. 563-567, 2009.
- **Y. Lee** and J. Yang, "Visualization of Software Evolution ", Proceedings of the International Conference on Software Engineering Research and Practice (SERP), pp. 343-348, 2008.
- J. Oh, Y**. Lee**, and R. A. Aukerman, "Decision Support Systems in Highway Traffic Control", Proceedings of the International Association for Computer Information Systems (IACIS), 2008.
- **Y. Lee**, J. Yang and K. H. Chang, "Metrics and Evolution in Open Source Software," IEEE *Seventh International Conference on Quality Software (QSIC 2007)*, 2007, pp. 191-197, doi: 10.1109/QSIC.2007.4385495.
- **Y. Lee** and Kai H, Chang, "Reusability and maintainability metrics for object-oriented software," ACM-SE 38: Proceedings of the 38th annual on Southeast regional conference, 2000, https://doi.org/10.1145/1127716.1127737.

PUBLICATIONS: PEER-REVIEWED BOOK CHAPTERS (* indicates student)

- Yang J., **Lee Y**., McDonald A.P*. (2021) SolarWinds Software Supply Chain Security: Better Protection with Enforced Policies and Technologies. In: Lee R. (eds) Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing. SNPD 2021. Studies in Computational Intelligence, vol 1012. Springer, Cham. https://doi.org/10.1007/978-3-030-92317-4_4.
- **Y. Lee** & J. Yang. (2020). Analysis of Bug Types of Textbook Code with Open-Source Projects. Springer Nature Book: Transactions on Computational Science & Computational Intelligence-Advances in Software Engineering, Education, and e-Learning, https://link.springer.com/chapter/10.1007/978-3-030-70873-3_44
- Shah, K.B*., **Lee, Y.** (2014). Automatic Sensor Configuration for Creating Customized Sensor Network. In: Silhavy, R., Senkerik, R., Oplatkova, Z., Silhavy, P., Prokopova, Z. (eds) Modern Trends and Techniques in Computer Science. Advances in Intelligent Systems and Computing, vol 285. Springer, Cham. https://doi.org/10.1007/978-3-319-06740-7_28.

Posters and Presentations

- Mark Solis*, Young Lee (Advisor), “LVing: Detecting Memory Vulnerabilities in Concurrent Rust Program," Great Minds in STEM (GMiS), 2025
- Syeda Boshra*, Young Lee (Advisor), “Machine Learning-Based Vulnerability Detection in Rust Code Using LLVM IR and Transformer Model,” Great Minds in STEM (GMiS), 2025
- J. Yang, Y. Lee, “Enhancing Urban Mobility: SmartSAT's Impact on Public Transportation Services and Commuting Experience,” 2024 ASEE Annual Conference & Exposition
- Claire Braaten, Daniel Braaten, Young Lee, “Human Trafficking in the Philippines: How the Trafficked Became Perpetrators of Employment, Romance, and Financial Scams,” American Society of Criminology Annual Meeting in San Francisco from November 13-16, 2024

M.S. THESIS ADVISOR:

- Advisor: Mark Solis, “Uncovering Hidden Concurrency and Memory Safety Vulnerabilities in Rust Programs via LLVM-IR Level Graph-Based Analysis and Interactive Visualization,” 2025-26
- Advisor: Zeyad Abdelrazek, “Optimizing LLVM-IR Symbolic Execution with KLEE: A Hybrid Approach using Static Analysis and Machine Learning,” 2025-26
- Advisor: Syeda Jannatul Boshra, “Enhancing Vulnerability Detection in Rust Programs through LLVM IR Graph representation,” 2025-26
- Thesis Committee: Mohamed Elsayed, 2025-26
- Thesis Committee: Gurman Singh Marahar, 2025-26
- Thesis Committee: Viveka Kumar, 2025-26
- Thesis Committee: Ramya Jonnala, “Measuring and Improving the Efficiency of Python Code Generated by LLM “, graduated in May 2025

SCHOLARSHIPS, ACADEMIC TRAINING & PROFESSIONAL DEVELOPMENT (2025)

- Aug 14, 2025 Attended CISE Core Solicitation Webinar: Future Computing Research, NSF 25-543
- Sep 5, 2025 Attended CAHSI NAIRR overview and OSG Basics Workshop
- Sep 12, 2025 Attended and participated collaborate proposal development, AI Pre-Ideation Workshop
- Oct 2, 2025 Attended, Developed the AI education proposal as a team leader and PI, Presented the proposal idea at the AI Ideation Session at GMiS Conference, San Diego
- Oct 2, 2025 Attended, Lead the Develop of the ML Dataset research proposal at the AI Ideation Session at GMiS Conference, San Diego

- Aug 20 2025: Attended "Test Bed: Toward a Network of Programmable Cloud Laboratories (NSF PCL Test Bed) webinar," NSF

ABET EXPERIENCE:

I have been an ABET Committee member for Computer Science in the department of Computing and Cyber Security Department at A&M-SA since 2018.

I developed the rubrics for all courses required for the BS in Computer Science at Texas A&M University-Kingsville: CSEN 2304, CSEN 2306, CSEN 2310, CSEN 2328, CSEN 3314, CSEN 3315, CSEN 3316, CSEN 4201, CSEN 4202, CSEN 4317, CSEN 4320, CSEN 4340, CSEN 4362, CSEN 4366. The rubrics have been used for assessing student learning outcomes for the ABET accreditation including Fall 2013 ABET visit and Fall 2015 ABET Focus visit.

I was an active faculty member in preparing ABET reports, assessment reports, and relevant documents and attending advisory board meetings. I was also a member of SACS and IEP Advisory Committee at TAMUK.

SERVICE TO UNIVERSITY:

2024-2025	Developed and Presented at the Summer Workshop Jag-AI: Workshop Series, Machine Learning and AI Fundamentals for Research, Topic: Static Analysis using Machine Learning
2021-present	Graduate Council Member, representing computing graduate programs, Since Fall 2021 and in 2022, I have served on the Graduate Council for the university. The Council works hard to shape graduate studies at the university. As a member, I have worked with other members on establishing strategic goals, procedures, and policies that outline graduate study's focus areas. The Council is formed with two representatives from each college and the faculty senate.
2022-present	Steering member, Proyecto Exito for graduate programs
2023	Search Committee Member, Dean of Graduate Studies
2023	Search Committee Member, Assistant Director of International Affairs
2019-2022	Quantitative Reasoning Advisory Committee Member: Implementation of Quality Enhancement Plan (QEP)
2020-2022	Freshman students' mentor, University Faculty Advising Program, Mentor for TAMUSA CS/CIS/COB freshman students. Advised Freshmen Students as a Mentor Faculty Students Training Experience Learning Group Discussion (Sep 3, 2022)
2021-2022	Student Research Symposium Faculty Sponsor
2020-2021	Search Committee Member, Dean of College of Business

2020-2021	Faculty Grievance Panel
2019-2022	University Faculty Advisory
2019-2021	University Curriculum Committee Member on undergraduate curriculum proposals from three Colleges

PROFESSIONAL SERVICE:

Year	I have reviewed at least one paper in these journals in the given year.
2025	POC, A&M-SA representative, Computing Alliance of Hispanic-Serving Institutions (CAHSI) Attended Bi-weekly Southwest regional meetings
2025	Reviewer, Member of Editorial Board of the journal, Journal of Transport & Health
2023, 2024, 2025	Guest Editor for the special issue "Cyber Security and Software Engineering," Applied Sciences Journal by MDPI.
2025	Guest Editor for the special issue, "Recent Advances in Secure Software Engineering," Applied Sciences Journal by MDPI.
2025	Reviewer, Scientific Report
2025	Reviewer, Qeios
2025	Reviewer, Journal of Software: Evolution and Process
2025	Reviewer, Discover Electronics
2025	Reviewer, SN Computer Science
2025	Reviewer, Community Reviewer, Frontiers in Artificial Intelligence
2025	Reviewer, Cluster Computing
2025	Reviewer, Journal of Medical Internet Research
2025	Reviewer, Journal of Cybersecurity Education, Research and Practice
2025	Reviewer, IEEE *Access*
2025	Reviewer, Asian Journal of Research in Computer Science
2025	Reviewer, Research and Practice
2024	NSF Panelist/Reviewer, NSF Graduate Research Fellowship Program (GRFP)
2024	Reviewer, Springer Journals, SN Computer Science
2024	Reviewer, Tapia 2024 Doctoral Consortium, CMD-IT/ACM RICHARD TAPIA CELEBRATION OF DIVERSITY IN COMPUTING CONFERENCE, https://tapiaconference.cmd-it.org/
2024	Reviewer, Full Research Paper review, IEEE Frontiers in Education Conference (FIE)

2024	Reviewer, "Security of Programmable Logic Controllers and Related Systems: Today and Tomorrow" for the IEEE Open Journal of the Industrial Electronics Society
2024	Reviewer, "Cyber Vulnerability Trend for Robotic Systems" for IEEE *Access*
2024	Reviewer, "Turnstile File Transfer: A Unidirectional System for Medium-Security Isolated Clusters" for Journal of Cybersecurity Education, Research and Practice.
2024	Reviewer, "User Susceptibility to Distraction in Augmented Reality Applications: AI Detection of Malicious Push Notifications in a Mobile Augmented Reality Interface" for Journal of Cybersecurity Education, Research and Practice
2024	Academic Editorial Board Member of BP International, Review a Book, "Contemporary Perspective on Science, Technology and Research" and a Book Chapter (Manuscript), "Integration Between E-learning System Platform Social Network"
2024	Judge, Alamo Regional Science and Engineering Fair , The Alamo Regional Science and Engineering Fair (ARSEF)
2024	Paper reviewer for NSF Grantees Poster Session for the 2024 ASEE Annual Conference & Exposition
2023	NSF Panelist/Reviewer, Regional Innovation Engines Type-2
2023	Journal Reviewer, SN (Springer Nature) Computer Science Journal
2023	Journal Reviewer, IEEE Access Journal
2023, 2022	Reviewer, CMD-IT/ACM Richard Tapia Celebration of Diversity in Computing Conference, Doctoral Consortium
2014-present	Reviewer, IEEE Frontiers in Education (FIE) Conference: Fostering Innovation Through Diversity
2018-present	POC, A&M-SA representative, Computing Alliance of Hispanic-Serving Institutions (CAHSI)
2022	Journal Guest Editor, Topical Issue 'Advances in Computational Intelligence for Artificial Intelligence, Machine Learning, Internet of Things and Data Analytics', Springer Nature Computer Science Journal.
2022	Journal Reviewer, IEEE Access How Do Organizations Seek Cyber Assurance? Investigations on the Adoption of the Common Criteria and Beyond, May 23, 2022
2022	Reviewer, Tapia 2022 Doctoral Consortium, May 11 - May 29, 2022 https://tapiaconference.cmd-it.org/
2022, 2021	Poster Reviewer, CMD-IT/ACM Richard Tapia Celebration of Diversity in Computing Conference
2022	Technical Program Committee Chair, International Conference on Analytics and Learning in Computational Systems (ICALCS – 2022) at GSSS Institute of Engineering and Technology for Women, Mysuru, India https://geethashishu.in/icalcs/ The conference has been hosted in December 2022 in association with Elsevier, focusing on analytics learning in the fields of AI, Machine Learning, Computational Analytics, Evolutionary Computing, Cloud Computing, Data Analytics, Data Mining Applications, etc.

2022	Review, ELSEVIER IST, INFSOF-D-19-00614 entitled Fixing Design Inconsistencies of Polymorphic Methods using Sequence Models for Information and Software Technology
2021	Journal Reviewer, Journal of Frontiers in Artificial Intelligence
2021	Editorial Board of AI in Business as Review Editor, Journal of Frontiers in Artificial Intelligence
2021	Journal Reviewer, Engineering Reports Journal
2021, 2020, 2016	NSF Panelist/Reviewer, Robert Noyce Teacher Scholarship Program
2021	Committee/Task Force, Computing Alliance of Hispanic-Serving Institutions (CAHSI) (Regional)
2020	Journal Reviewer, Information and Software Technology Journal
2020, 2018, 2014	Editorial Board Member, Journal of Biometrics and its Applications
2020	Committee, KASTE (Korean American Society for Technology Entrepreneurship)
2020 -2015	Reviewer, ACM SIGCSE, paper and tool demo review
2020, 2018	Journal Guest Editor, Asian Journal of Research in Computer Science
2019	Technical Program Committee Chair, 'International Conference on Adaptive Computational Intelligence (ICACI- 2022)' at GSSS Institute of Engineering and Technology for Women, Mysuru, India
2019	Journal Reviewer, Wiley Engineering Reports Journal
2019	Judge, FBLA-PBL National Leadership Conference (NLC),
2019	Panelist, Research guideline of Broadening Participation in k-12 STEM Education Research, invited by the Center for Gender Equity in Science and Technology (CGEST) AZ
2019	Committee Chair, International Conference on Computational Intelligence and Internet of Everything (ICCIIoE (International)
2018	Committee chair, Conference on Information & Computer Technology
2018	Program committee and reviewer, 31th IEEE International Conference on Software Engineering Education and Training (CSEE&T)
2018	Reviewer, International Journal on Software & Systems Modeling
2018	Reviewer, International Journal of Interactive Mobile Technologies (iJIM)

SERVICE TO COLLEGE:

2025	College Committee, outstanding graduate student award
2025	College Hooding Ceremony, Spring and Fall Announce the ceremony and gather graduate students for hooding

2024	Ad hoc Committee for the Review pre-tenure
2018-2023	Tenure and Promotion/Faculty Evaluation Committee Member: Evaluation of Tenure & Promotion Portfolios and Annual Reports I have served on the College Promotion and Tenure (P/T) Committee. The P/T committee is elected by the college faculty members with one representative from each department and one 'at large' alternative. As a P/T committee member, I am involved in reviewing promotion and/or tenure applications and preparing recommendations for the Dean. I also involve reviewing and preparing annual evaluations for all tenured and tenure track faculty members in the college.
2020-2021	CIS Curriculum Task Force Member
2020-2023	Member, Capstone Lab and Ethics Learning Outcome Task Force I have served on the Capstone Lab and Ethics Learning Outcome Task Force for the college. The task force recommended curriculum changes to transition from BUAD 4170 to BUAD 4070 and supported deleting BUAD 4170 from the catalog and suggested for the college programs include a curriculum to achieve Ethics learning outcomes.
2019-2022	Chair, College Curriculum Committee
2019-2021	AACSB Strategic Planning Committee Member
2019-2020	Presenter, Graduate Studies Orientation for MS-CS program
2018-2019	College Curriculum Committee Member

SERVICE TO DEPARTMENT:

2025	Graduate Program Coordinator for MS Computer Science and MS Cybersecurity programs Attended monthly GPC meetings Review graduate applications for admission and scholarships and write merit scholarship recommendation letters for students. Review domestic students Graduate Expedited Admissions Developed and submitted IEP and IER for MSCS and MSCyber programs Attended Thesis Workshop Graduate Review for each graduate students applied graduate Advising graduate students for degree plan, course registration, course prerequisites review Low GPA students OPT application review
2025	Graduate New Students Orientations (GNSO) for MSCS and MSCyber students, Jan 11, 2025
2025	Chair GAR selection committee, developed job description, announcement, collected applications, interview
2025	Chair, TA selection committee, developed job description, announcement, collected applications, interviews, selection

2025	Faculty Evaluation Committee
2025	Chair, Ad Hoc Committee for NTT Promotion review
2023-2024	Department P/T Committee for Tenure and Pre-tenure. Chair/Member
2023-2024	Search Committee Member, Instructional Assistant Professor of Computer Science/Cyber Security
2023-2024	Search Committee Member, Tenure Track Assistant Professor of Cyber Security
2023-2024	Search Committee Member, **Electronic Systems Engineering Technology Associate Professor**
2023-2024	Search Committee Member, Adjunct Faculty in Computer Science/Cybersecurity/ Cyber Engineering Technology
2022-2023	Student Research Symposium Faculty Sponsor
2021	Organizer, Plagiarism-Ethics seminar to MS-CS graduate students
2018-present	ABET-CS Committee Member
2019-2020	Chair, Faculty Search Committee for three positions • Tenure-track assistant professor in Computer Science • Tenure-track assistant professor in Computer Information Systems • Full-time Lecturer in Computer Science
2019-2020	Chair, Department Curriculum Committee
2018-2022	Graduate Coordinator, MS-CS program
2018-2019	Presenter, recruitment activities for CCS programs at JaguarDay
2019-2022	Faculty Mentor, assigned CS/CIS/IT students

MEMBERSHIP IN PROFESSIONAL SOCIETY:

- Member, Institute of Electrical and Electronics Engineers (IEEE) Computer Society
- Member, Institute of Electrical and Electronics Engineers (IEEE)
- Member, Association for Computing Machinery (ACM) Special Interest Group on Software Engineering (SIGSOFT)
- Member, Korean American Scientists and Engineers Association (KSEA)
- Member, Korean Computer Scientists and Engineers Association in America (KOCSEA)
- Founding member, KASTE (Korean American Society for Technology Entrepreneurship)