

**FRANCISCO SERVANT**

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**RESEARCH INTERESTS**

My research focuses on **software development productivity** and **software quality**. I provide practical solutions to real-world software-engineering problems through empirical software engineering (quantitative and qualitative), software analytics, mining software repositories, automation, and software comprehension.

**EXPERIENCE****Universidad Rey Juan Carlos, Madrid, Spain****November 2021 – Present****Distinguished Researcher**

I perform research in software development productivity, mining software repositories, program analysis, and computer-supported collaborative work.

**Virginia Polytechnic Institute and State University, Blacksburg, VA****August 2015 – Oct. 2021****Assistant Professor**

I perform research in software development productivity, mining software repositories, program analysis, and computer-supported collaborative work.

**University of California, Irvine, CA****March 2008 – June 2015****Graduate Research Assistant**

I performed research in software development productivity, mining software repositories, program analysis, and computer-supported collaborative work.

**Microsoft Research, Redmond, WA****June 2011 – Sept. 2011****Research Intern**

I performed research to mitigate the complexity of branching within the development process, and I implemented a tool to report my findings.

**DreamWorks Animation, Glendale, CA****June 2008 – Sept. 2008****Research & Development Intern**

I surveyed developers to study how they used the internal revision-control system. I also designed new architectures, performed bug fixes, added test cases and implemented new features for it.

**Microsoft Corporation, Madrid, Spain****July 2005 – July 2007****SQL Server Development Support Engineer**

I provided reactive support for administration and development of SQL Server for European customers by phone, email, and on-site. I frequently resolved critical situations with direct impact on the customer's business.

**Valeo Lighting Systems, Martos, Spain****Aug. 2004 – Oct. 2004****Software Engineer Intern**

I designed and implemented an automated technical support system, deployed cryptography infrastructure (PGP), and performed technical support tasks for Microsoft software.

## EDUCATION

<b>Ph.D. in Software Engineering</b> University of California, Irvine Advisor: James A. Jones Dissertation Title: “ <i>A Characterization and Partial Automation of the Multi-revision, Fine-grained Analysis of Code History as an Efficient and Accurate Mechanism to Support Software Development</i> ”	<b>Sept. 2009 – June 2015</b>
<b>M.S. in Information and Computer Sciences, Software track</b> University of California, Irvine Advisor: André van der Hoek Thesis Title: “ <i>Spheres of Influence: Enhancing Support of Indirect Conflicts through Workspace Awareness</i> ”	<b>Sept. 2007 – Aug. 2009</b>
<b>European Union Erasmus Fellowship for Education Abroad</b> School of Computing, Dublin City University, Ireland	<b>Sept. 2003 – June 2004</b>
<b>B.S. in Computer Science</b> University of Granada, Spain Advisor: Juan Carlos Torres Thesis Title: “ <i>Snap: A Dental Prints Recognition System</i> ”	<b>Sept. 2000 – Dec. 2005</b>

## ADDITIONAL EDUCATION

<b>Teaching Excellence Program</b> University of California, Irvine	<b>April 2015 – June 2015</b>
<b>Science Communication Program</b> Physics Department, University of California, Irvine	<b>Jan 2015 – March 2015</b>
<b>Power Speech Public Speaking Program</b> Drama Department, University of California, Irvine	<b>April 2014 – June 2014</b>
<b>Mentoring Excellence Program</b> University of California, Irvine	<b>May 2014 – June 2014</b>
<b>Mining Software Repositories Summer School</b> School of Computing, Queen’s University, Kingston, ON, Canada	<b>June 2010</b>

## AWARDS &amp; HONORS

2021	National Science Foundation CAREER Award, 2021
2020	Distinguished Reviewer Award, MSR 2020.
2019	ACM SIGSOFT Distinguished Paper Award, ASE 2019.
2019	2nd Best Paper Award, SIGCSE 2019.
2018	ACM SIGSOFT Distinguished Paper Award, ESEC/FSE 2018.
2009	Dean’s Fellowship. Donald Bren School of Information and Computer Science, University of California, Irvine.
2007	Caja Madrid Foundation Fellowship for Graduate Studies.

## FUNDING

- 2021 Autonomous Targeted Software Verification. National Science Foundation CCF-2046403 (CAREER), Francisco Servant (PI), 2021–2025. Total: \$470,374
- 2016 Professional Development Award for Hispanic/Latino Faculty. Hispanic/Latino Faculty & Staff Caucus. Francisco Servant (PI), 2016. Total: \$1,000
- 2016 New Assistant Professor Mentoring Grant. Virginia Tech Office of the Executive Vice President and Provost, Francisco Servant (PI), 2016. Total: \$1,500.

## FELLOWSHIPS

- 2009 Dean’s Fellowship. Donald Bren School of Information and Computer Science, University of California, Irvine. Francisco Servant, 2009–2013. Total: \$169,970.
- 2007 Caja Madrid Foundation Fellowship for Graduate Studies, Francisco Servant, 2007–2009. Total: 72,013 euros

## REFEREED JOURNAL ARTICLES.

(Underlined are students supervised by me)

- JSS’22  
(JCR Q1) Xianhao Jin, **Francisco Servant**. “*Which Builds Are Really Safe to Skip? Maximizing Failure Observation for Build Selection in Continuous Integration*”. Journal of Systems and Software (JSS), March 2022, 111292, 21 pages. (2.829 impact factor).
- JSS’21  
(JCR Q1) Rafael Barbudo, Aurora Ramírez, **Francisco Servant**, José Raúl Romero. “*GEML: A Grammar-based Evolutionary Machine Learning Approach for Design-Pattern Detection*”. Journal of Systems and Software (JSS) 175, May 2021, 110919, 32 pages. (2.829 impact factor).
- JSS’21  
(JCR Q1) Ayaan M. Kazerouni, James C. Davis, Arinjoy Basak, Clifford A. Shaffer, **Francisco Servant**, Stephen H. Edwards. “*Fast and Accurate Incremental Feedback for Students’ Software Tests Using Selective Mutation Analysis*”. Journal of Systems and Software (JSS) 175, May 2021, 110905, 22 pages. (2.829 impact factor).

## REFEREED PAPERS IN CONFERENCE PROCEEDINGS (TOP-TIER)

(Underlined are students supervised by me)

- ICSE’21  
(CORE A\*) Xianhao Jin, **Francisco Servant**, “*What helped, and what did not? An Evaluation of the Strategies to Improve Continuous Integration*”. Proceedings of the 43rd International Conference on Software Engineering, Technical Research Track (ICSE 2021), Madrid, Spain, May 2021, 12 pages, to appear. **Acceptance Rate: 22%**.
- IEEE S&P’21  
(CORE A\*) James C. Davis, **Francisco Servant**, Dongyoon Lee, “*Using Selective Memoization to Defeat Regular Expression Denial of Service (ReDoS)*”. Proceedings of the 42nd IEEE Symposium on Security and Privacy, Technical Research Track (S&P 2021), San Francisco, CA, U.S.A., May 2021, 17 pages, to appear. **Acceptance Rate: 8%**.
- ICSE’20  
(CORE A\*) Xianhao Jin, **Francisco Servant**, “*A Cost-efficient Approach to Building in Continuous Integration*”. Proceedings of the 42nd International Conference on Software Engineering, Technical Research Track (ICSE 2020), Virtual, July 2020, pp. 13-25. **Acceptance Rate: 21%**.

- ASE'19 (CORE A\*) Louis G. Michael IV, James Donohue, James C. Davis, Dongyoon Lee, **Francisco Servant**, “*Regexes are Hard: Decision-making, Difficulties, and Risks in Programming Regular Expressions*”. Proceedings of the 34th IEEE/ACM International Conference on Automated Software Engineering, Technical Research Track (ASE 2019), San Diego, CA, U.S.A., November 2019, pp. 415–426. **Acceptance Rate: 23%. ACM SIGSOFT Distinguished paper award.**
- ESEC/FSE'19 (CORE A\*) Khadijah Al Safwan, **Francisco Servant**, “*Decomposing the Rationale of Code Commits: The Software Developers' Perspective*”. Proceedings of the 27th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering, Technical Research Track (ESEC/FSE 2019), Tallinn, Estonia, August 2019, pp. 397–408. **Acceptance Rate: 24%.**
- ESEC/FSE'19 (CORE A\*) James C. Davis, Louis G. Michael IV, Christy A. Coghlan, **Francisco Servant**, and Dongyoon Lee, “*Why Aren't Regular Expressions a Lingua Franca?*”. Proceedings of the 27th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering, Technical Research Track (ESEC/FSE 2019), Tallinn, Estonia, August 2019, pp. 443–454. **Acceptance Rate: 24%.**
- SIGCSE'19 (CORE A) Ayaan M. Kazerouni, Clifford A. Shaffer, Stephen H. Edwards, **Francisco Servant**. “*Assessing Incremental Testing Practices and Their Impact on Project Outcomes*”. Proceedings of the 50th ACM Technical Symposium on Computer Science Education, Technical Research Track (SIGCSE 2019), February 27-March 2, 2019, Minneapolis, MN, USA, pp. 407-413. **Acceptance Rate: 32%. 2<sup>nd</sup> Best paper award.**
- ESEC/FSE'18 (CORE A\*) James C. Davis, Christy A. Coghlan, **Francisco Servant**, and Dongyoon Lee, “*The Impact of Regular Expression Denial of Service (REDOS) in Practice: An Empirical Study at the Ecosystem Scale*”. Proceedings of the 26th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering, Technical Research Track (ESEC/FSE 2018), Lake Buena Vista, FL, U.S.A., November 2018, pp. 246–256. **Acceptance Rate: 19%. ACM SIGSOFT Distinguished paper award.**
- ICSE'17 (CORE A\*) **Francisco Servant**, James A. Jones, “*Fuzzy Fine-grained Code-history Analysis*”. Proceedings of the 39th International Conference on Software Engineering, Technical Research Track (ICSE 2017), Buenos Aires, Argentina, May 2017, pp. 746–757. **Acceptance Rate: 16%**
- FSE'12 (CORE A\*) **Francisco Servant**, James A. Jones, “*History Slicing: Assisting Code-Evolution Tasks*”. Proceedings of the 20th International Symposium on Foundations of Software Engineering, Technical Research Track (FSE 2012), Research Triangle Park, NC, USA, November 2012, pp. 43:1-43:11. **Acceptance Rate: 16.9%**
- ICSE'12 (CORE A\*) **Francisco Servant**, James A. Jones, “*WhoseFault: Automatic Developer-to-Fault Assignment Through Fault-Localization*”. Proceedings of the 34th International Conference on Software Engineering, Technical Research Track (ICSE 2012), Zurich, Switzerland, June 2012, pp. 36-46. **Acceptance Rate: 21%**

#### REFEREED WORKSHOP, SHORT PAPERS, AND OTHER CONFERENCES

- JISBD'21 José Raúl Romero, Rafael Barbudo Lunar, Aurora Ramírez, **Francisco Servant**. “*Detección de patrones de diseño con GEML: discusión y enfoque práctico*”. Jornadas de Ingeniería del Software y Bases de Datos (JISBD 2021), Málaga, Spain, September 2021, 14 pages, to appear.

- ICSE'21  
Artifact Track  
(CORE A\*) Xianhao Jin, Francisco Servant, “*CIBench: A Dataset and Collection of Techniques for Build and Test Selection and Prioritization in Continuous Integration*”. Proceedings of the 43rd International Conference on Software Engineering, Research Artifact Track (ICSE 2021), Madrid, Spain, May 2021, 2 pages, to appear.
- MSR'19  
Mining  
Challenge  
(CORE A) Xianhao Jin, Francisco Servant, “What Edits Are Done on Highly Answered Stack Overflow Questions? An Empirical Study”. Proceedings of the 16th International Conference on Mining Software Repositories, Mining Challenge Track (MSR 2019), Montreal, Canada, May 2019, pp. 225-229.
- ICSE'18  
Poster Track  
(CORE A\*) Lykes Claytor, Francisco Servant, “*Poster: Understanding and Leveraging Developer Inexpertise*”. Proceedings of the 39th International Conference on Software Engineering (ICSE 2018), Göthenburg, Sweden, May 2018, pp. 404-405.
- MSR'18  
Mining  
Challenge  
(CORE A) Xianhao Jin, Francisco Servant, “The Hidden Cost of Code Completion: Understanding the Impact of the Recommendation-list Length on its Efficiency”. Proceedings of the 15th International Conference on Mining Software Repositories, Mining Challenge Track (MSR 2018), Gothenburg, Sweden, May 2018, pp. 70–73.
- MSR'17  
Mining  
Challenge  
(CORE A) Aakash Gautam, Saket Vishwasrao, Francisco Servant, “An Empirical Study of Activity, Popularity, Size, Testing, and Stability in Continuous Integration”. Proceedings of the 14th International Conference on Mining Software Repositories, Mining Challenge Track (MSR 2017), Buenos Aires, Argentina, May 2017, pp. 495–498.
- ASE'13  
Doctoral  
Symposium  
(CORE A\*) **Francisco Servant**, “*Supporting Bug Investigation using History Analysis*”. Proceedings of the 28th IEEE/ACM International Conference on Automated Software Engineering, Doctoral Symposium Track (ASE 2013), Silicon Valley, California, November 2013, pp. 754-757.
- VISSOFT'13  
Tool Demo  
(CORE B) **Francisco Servant**, James A. Jones, “*Chronos: Visualizing Slices of Source-Code History*”. Proceedings of the 1st IEEE International Working Conference on Software Visualization, Tool Demonstrations Track (VISSOFT 2013), Eindhoven, Netherlands, September 2013, pp. 1-4.
- ASE'11  
Technical  
short paper  
(CORE A\*) **Francisco Servant**, James A. Jones, “*History Slicing*”. Proceedings of the 26th IEEE/ACM International Conference on Automated Software Engineering, Technical Research Track (ASE 2011), Lawrence, Kansas, USA, November 2011, pp. 452-455.
- CHASE'10  
Workshop **Francisco Servant**, James A. Jones, André van der Hoek, “*CASI: Preventing Indirect Conflicts through a Live Visualization*”. Proceedings of the International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE 2010), Cape Town, South Africa, May 2010, pp. 39-46.

## CONFERENCE PRESENTATIONS

- “*An Empirical Study of Activity, Popularity, Size, Testing, and Stability in Continuous Integration*”. Proceedings of the 14th International Conference on Mining Software Repositories (MSR 2017), Mining Challenge Track, Buenos Aires, Argentina, May 2017.
- “*Fuzzy Fine-grained Code-history Analysis*”. Proceedings of the 39th International Conference on Software Engineering (ICSE 2017), Buenos Aires, Argentina, May 2017.
- “*Supporting Bug Investigation using History Analysis*”. International Conference on Automated Software Engineering, Doctoral Symposium Track (ASE 2013), Silicon Valley, California, November 2013.
- “*Chronos: Visualizing Slices of Source-Code History*”. Working Conference on Software Visualization, Tool Track (VISSOFT 2013), Eindhoven, Netherlands, September 2013.

- “*History Slicing: Assisting Code-Evolution Tasks*”. International Symposium on Foundations of Software Engineering (FSE 2012), Research Triangle Park, NC, USA, November 2012.
- “*WhoseFault: Automatic Developer-to-Fault Assignment Through Fault-Localization*”. International Conference on Software Engineering (ICSE 2012), Zurich, Switzerland, June 2012.
- “*History Slicing*”. International Conference on Automated Software Engineering (ASE 2011), Lawrence, Kansas, USA, November 2011.
- “*CASI: Preventing Indirect Conflicts through a Live Visualization*”. Workshop on Cooperative and Human Aspects of Software Engineering (CHASE 2010), Cape Town, South Africa, May 2010.

## INVITED PRESENTATIONS

- “*Supporting Software Development through Code History Analysis*”. Computer Science Graduate Seminar. Virginia Commonwealth University (VCU), Virginia, USA, October 2016.
- “*Improving Software Development through Data Analytics*”. Center for the Enhancement of Engineering Diversity (CEED) Seminar. Virginia Tech, Virginia, USA, September 2016.
- “*Automatic Software Development Support*”. Graduate Recruitment Seminar. Virginia Tech, Virginia, USA, March 2016.
- “*Supporting Software Development through Code History Analysis*”. Computer Science Graduate Seminar. Virginia Tech, Virginia, USA, February 2016.
- “*Understanding Bugs through Code-history Analysis*”. ISR Research Forum, Irvine, California, USA, May 2014.
- “*Supporting Bug Investigation using History Analysis*”. Universidad de Sevilla, Spain. December 2013.
- “*History Slicing: Assisting Code-Evolution Tasks*”. Universidad Rey Juan Carlos, Madrid, Spain. October 2013.
- “*Un futuro de oportunidades*”. CITIC-UGR Research Center, Granada, Spain, October 2013.
- “*Supporting Code-Evolution Tasks with Code History*”. ISR Research Forum, Irvine, California, USA, May 2013.
- “*History Slicing*”. ISR Research Forum, Irvine, California, USA, May 2012.
- “*BranchMon: A Branch Analytics Tool*”. Microsoft Research, Redmond, Washington, USA, September 2011.
- “*Automatic Developer-to-Failure Assignment*”. Microsoft Research, Redmond, Washington, USA, July 2011.
- “*Lighthouse - A Coordination Platform Based on Emerging Design*”. ISR Research Forum, Irvine, California, USA, June 2009.
- “*Snap: A Dental Prints Recognition System*”. Microsoft Corporation, Madrid, Spain, January 2006.

## TEACHING EXPERIENCE

- CS 6704: Software Engineering Analytics and Automation. Principal Instructor. Virginia Tech. Fall 2016, Fall 2018, Fall 2020.
- CS 5704: Software Engineering. Principal Instructor. Virginia Tech. Fall 2015, Fall 2017, Fall 2019.
- CS 4704: Software Engineering Capstone. Principal Instructor. Virginia Tech. Fall 2018.

- CS 3704: Intermediate Software Design and Engineering. Principal Instructor. Virginia Tech. Spring 2016, Spring 2018, Spring 2019, Spring 2020, Fall 2020.
- IN4MATX 215: Software Analysis and Testing. Guest Lecture: “Continuous Integration and Delivery”, University of California, Irvine. Spring 2015.
- IN4MATX 115: Software Testing, Analysis, and Quality Assurance. Guest Lecture: “Continuous Delivery”, University of California, Irvine. Fall 2014.
- IN4MATX 215: Software Analysis and Testing. Guest Lecture: “Continuous Integration”, University of California, Irvine. Spring 2014.
- IN4MATX 44: Informatics Research Topics. Guest Lecture, University of California, Irvine. Spring 2012.
- IN4MATX 115: Software Testing and Quality Assurance. Reader, University of California, Irvine. Spring 2012.
- IN4MATX 42: Informatics Core II. Reader, University of California, Irvine. Winter 2012.
- IN4MATX 191C: Senior Design Project. Reader, University of California, Irvine. Winter 2012.
- IN4MATX 113: Requirements Analysis & Engineering. Reader, University of California, Irvine. Fall 2011.
- IN4MATX 191B: Senior Design Project. Reader, University of California, Irvine. Fall 2011.
- IN4MATX 215: Software Analysis and Testing. Guest Lecture: “Automatic Expertise Identification”, University of California, Irvine. Fall 2011.

## STUDENTS

### Graduate Thesis Advisees

- Sk Adnan Hassan, Ph.D. Computer Science (2019–2024). Passed Qualifier.
- Waad Aldndni, Ph.D. Computer Science (2019–2024). Passed Qualifier.
- Mohammed Elarnaoty, Ph.D. Computer Science (2018–2023). Passed Qualifier.
- Xianhao Jin, Ph.D. Computer Science (2017–2022). Passed Prelim.
- Khadijah Al Safwan, Ph.D. Computer Science, (2016–2022). Passed Prelim.
- Ting-Chia Chang, M.S. Computer Science, (2019- **Graduated 2021**)
- Yu-Hsuan Huang, M.S. Computer Science, (2019- **Graduated 2021**)
- Alon Bendelac, M.S. Computer Science, (2019–**Graduated 2020**)
- Louis G. Michael IV, M.S. Computer Science, (2018–**Graduated 2019**)
- Kanagaraj Nachimuthunallasamy, M.S. Computer Science, (2017–**Graduated 2019**)
- Khadijah Al Safwan, M.S. Computer Science, (2016–**Graduated 2018**)
- Frank Lykes Claytor, M.S. Computer Science, (2017–**Graduated 2018**)
- Soumik Ghosh, M.S. Computer Science (2016–**Graduated 2017**)

### Graduate Thesis Committee Memberships

- Steven Lim, M.S. Computer Science (2020–Present)
- Shuangyi Li, M.S. Computer Science (2020–Present)
- Mahir Kabir, Ph.D. Computer Science (2019–Present)

- Sheikh Shadab Towqir, Ph.D. Computer Science (2019–Present)
- Redwan Ibne Seraj Khan, Ph.D. Computer Science (2019–Present)
- Bowen Shen, Ph.D. Computer Science (2018–Present)
- Jingoo Han, Ph.D. Computer Science (2018–Present)
- Rifat Sabbir Mansur, Ph.D. Computer Science (2018–Present)
- Breno Dantas Cruz, Ph.D. Computer Science (2018–Present)
- Derek Haqq, Ph.D. Computer Science (2017–Present)
- Yin Liu, Ph.D. Computer Science (2016–Present)
- Kijin An, Ph.D. Computer Science (2015–Present)
- Aabhas Bhatia, M.S. Computer Science (2018–Present)
- Bharti Wadhwa, Ph.D. Computer Science (2015–Graduated 2020)
- Zheng Song, Ph.D. Computer Science (2018–Graduated 2020)
- Myles Frantz, Ph.D. Computer Science (2018–Graduated M.S. 2020–Present Ph.D.)
- Peeratham Techapalokul, Ph.D. Computer Science (2017–Graduated 2020)
- Fahad Ibrar, M.S. Computer Science, (2018–Graduated 2020)
- Ayaan Kazerouni, Ph.D. Computer Science (2017–Graduated 2020)
- James Davis, Ph.D. Computer Science (2015–Graduated 2020)
- Chengyuan Wen, M.S. Computer Science (2017–Graduated 2019)
- Bob Edmison, Ph.D. Computer Science (2016–Graduated 2019)
- Mukund Rajagopal, M.S. Computer Science (2017–Graduated 2018)
- Nischel Kandru, M.S. Computer Science (2017–Graduated 2018)
- Zahra Ghaed, M.S. Computer Science (2016–Graduated 2017)
- Jing Pu, M.S. Computer Science (2016–Graduated 2016)

#### Undergraduate Research Advisees

- Ankita Khera, B.S. Computer Science, (2018)
- Kamran Rana, B.S. Computer Science, (2018)
- Jahdiel Couchman, B.S. Computer Science, UNC Charlotte (Summer 2017)
- Jeremy Anoc, B.S. Information and Computer Science, UC Irvine (2012–Graduated 2013)

#### EXTERNAL SERVICE, RESEARCH GRANTS

- Grant proposals reviewer, NSF panel, 2018.
- Grant proposals reviewer, Fonds de recherche du Québec – Nature et technologies (FRQNT), 2017.

#### EXTERNAL SERVICE, RESEARCH JOURNALS

- Reviewer, IEEE Software, 2018.
- Reviewer, IEEE Transactions on Software Engineering Journal (TSE), 2016, 2017, 2018, 2019, 2020, 2021.



- Reviewer, Empirical Software Engineering Journal (EMSE), 2018, 2019, 2020, 2021.
- Reviewer, Journal of Systems and Software (JSS), 2014, 2017, 2018, 2020.
- Reviewer, Journal of Internet Services and Applications (JISA), 2015.
- Reviewer, Central European Journal of Computer Science (CEJCS), 2013.

#### EXTERNAL SERVICE, RESEARCH CONFERENCES

- PC member, International Conference on Software Engineering (ICSE), Technical track, 2023.
- PC member, International Conference on Program Comprehension (ICSME), Technical track, 2022.
- PC member, International Conference on Program Comprehension (ICPC), Technical track, 2022.
- PC member, International Conference on Software Maintenance and Evolution (ICSME), NIER track, 2021.
- PC member, International Conference on Automated Software Engineering (ASE), Technical track, 2020, 2021.
- Co-chair, International Conference on Software Engineering (ICSE), Demonstrations Track, 2021.
- PC member, International Conference on Mining Software Repositories (MSR), Technical track, 2019, 2020.
- Judge, International Symposium on the Foundations of Software Engineering (FSE), SRC track, 2019.
- PC member, International Conference on Software Maintenance and Evolution (ICSME), Short papers track, 2019.
- PC member, International Working Conference on Source Code Analysis and Manipulation (SCAM), Engineering track, 2019.
- PC member, International Conference on Software Engineering (ICSE), NIER track, 2019.
- PC member, International Conference on Software Maintenance and Evolution (ICSME), Technical track, 2018.
- PC member, International Conference on Software Maintenance and Evolution (ICSME), Artifacts track, 2018.
- PC member, International Symposium on the Foundations of Software Engineering (FSE), NIER track, 2018.
- PC member, International Conference on Program Comprehension (ICPC), Industry Track, 2018.
- PC member, International Conference on Program Comprehension (ICPC), Demonstrations Track, 2012, 2018.
- PC member, International Working Conference on Mining Software Repositories (MSR), Mining Challenge Track, 2012.
- External reviewer, International Symposium on the Foundations of Software Engineering (FSE), Technical track, 2014.
- External reviewer, International Conference on Software Engineering (ICSE), Technical track, 2014.
- External reviewer, International Conference on Software Engineering (ICSE), Technical track, 2013.
- External reviewer, Working Conference on Software Visualization (VISSOFT), Tool Track, 2013.
- External reviewer, Working Conference on Software Visualization (VISSOFT), NIER Track, 2013.
- External reviewer, International Conference on Software Engineering (ICSE), Technical track, 2012.

## INTERNAL SERVICE

- Co-chair, PhD Qualifier, Software engineering Track, at the Computer Science department at Virginia Tech, 2019–2021.
- Committee member, Undergraduate Program Committee at the Computer Science department at Virginia Tech, 2018–2021.
- Committee member, Graduate admissions at the Computer Science department at Virginia Tech, 2016–2018.
- Host for the Multicultural Academic Opportunities Program (MAOP), providing research internships to groups underrepresented in STEM, 2017.
- Committee member, Hispanic Caucus at Virginia Tech, 2015–2021.
- Organizer, Systems reading group seminar, Fall 2016.

## PROFESSIONAL AFFILIATIONS

- |  |                |
|--|----------------|
| • Association for Computing Machinery (ACM)                        | 2010 – Present |
| • ACM Special Interest Group on Software Engineering (ACM SIGSOFT) | 2010 – Present |
| • Institute for Software Research at UC Irvine (ISR)               | 2007 – Present |

## REFERENCES

References available upon request