
Research Interests

Software Engineering and Applied Formal Methods, with a focus on Software Testing and Runtime Verification

Employment

July 2020 – Now Assistant Professor, CS Department, Cornell University

Education

- 2019 **Ph.D. Computer Science**, *University of Illinois at Urbana-Champaign (UIUC)*.
Dissertation: Evolution-Aware Runtime Verification
Advisors: Darko Marinov and Grigore Roşu
- 2012 **M.S. Computer Science**, *University of Texas at Dallas (UTD)*.
- 2007 **B.Sc. Computer Engineering**, *Obafemi Awolowo University (OAU), Nigeria*.

Honors and Awards

- 2024 ACM SIGSOFT Distinguished Paper Award at ISSTA 2024
- 2023 Intel Rising Star Faculty Award
- 2023 ACM SIGSOFT Distinguished Paper Award at ISSTA 2023
- 2021 – 2026 NSF CAREER Award
- 2021 Finalist, Microsoft Faculty Research Fellowship
- 2017 Feng Chen Memorial Award in Software Engineering, CS Department, UIUC
- 2016 ACM SIGSOFT Distinguished Paper Award at ASE 2016
- 2016 International Summer School Marktoberdorf Scholarship
- 2010 – 2011 Jonsson School Graduate Scholarship, UTD
- 2002 – 2007 National Merit Scholarship, Mobil Oil Producing Nigeria Unlimited

Publications

- ISSTA 2024 [1] Kevin Guan and **Owolabi Legunsen**. “*An In-depth Study of Runtime Verification Overheads during Software Testing*”. The 33rd ACM SIGSOFT International Symposium on Software Testing and Analysis, pages to appear, Vienna, Austria, September, 2024. Acceptance rate: 20.6% (143/694)
This paper won an ACM SIGSOFT Distinguished Paper Award
- FSE Demo '24 [2] Yu Liu, Aditya Thimmaiah, **Owolabi Legunsen**, and Milos Gligoric. “*ExLi : An Inline-Test Generation Tool for Java*”. ACM International Conference on the Foundations of Software Engineering, pages 652–656, Porto de Galinhas, Brazil, Brazil, July, 2024.
- SOSP 2023 [3] Tyler Gu, Xudong Sun, Yuxuan Jiang, Chen Wang, Mandana Vaziri, **Owolabi Legunsen**, and Tianyin Xu. “*Acto: Automatic End-to-End Testing for Operation Correctness of Cloud System Management*”. The 29th ACM Symposium on Operating Systems Principles, pages 96–112, Koblenz, Germany, October 2023. Acceptance rate: 18% (43/229)

- RV 2023 [4] Ayaka Yorihiro, Pengyue Jiang, Valeria Marqués, Benjamin Carleton, and **Owolabi Legunsen**. “*eMOP: A Maven Plugin for Evolution-Aware Runtime Verification*”. The 23rd International Conference on Runtime Verification, pages 363–375, Thessaloniki, Greece, October 2023.
- TSE 2023 [5] Adriano Torres, Pedro Costa, Luis Amaral, Jonata Pastro, Rodrigo Bonifácio, Marcelo d’Amorim, **Owolabi Legunsen**, Eric Bodden, and Edna Dias Canedo. “*Runtime Verification of Crypto APIs: An Empirical Study*”. IEEE Transactions on Software Engineering (TSE 2023), pages 4510–4525, Journal, October 2023.
- ISSTA 2023 [6] Yu Liu, Jiyang Zhang, Pengyu Nie, Milos Gligoric, and **Owolabi Legunsen**. “*More Precise Regression Test Selection via Reasoning about Semantics-Modifying Changes*”. The 32nd International Symposium on Software Testing and Analysis (ISSTA 2023), pages 664–676, Seattle, USA, July 2023. Acceptance rate: 31% (117/372)
This paper won an ACM SIGSOFT Distinguished Paper Award
- ISSTA 2023 [7] Yu Liu, Pengyu Nie, Anna Guo, Milos Gligoric, and **Owolabi Legunsen**. “*Extracting Inline Tests from Unit Tests*”. The 32nd International Symposium on Software Testing and Analysis (ISSTA 2023), pages 1458–1470, Seattle, USA, July 2023. Acceptance rate: 31% (117/372)
- ICSE Demo ’23 [8] Yu Liu, Zachary Thurston, Alan Han, Pengyu Nie, Milos Gligoric, and **Owolabi Legunsen**. “*pytest-inline: An Inline Testing Tool for Python*”. The 45th International Conference on Software Engineering, Tool Demonstrations Track (ICSE Demo 2023), pages 161–164, Melbourne, Australia, May 2023. Acceptance rate: 48% (38/80)
- ASE 2022 [9] Yu Liu, Pengyu Nie, **Owolabi Legunsen**, Milos Gligoric. “*Inline Tests*”. The 37th IEEE/ACM International Conference on Automated Software Engineering (ASE 2022), pages 1–13, Ann Arbor, Michigan, October 2022. Acceptance rate: 22% (116/527)
- AST 2022 [10] Jiyang Zhang, Yu Liu, Milos Gligoric, **Owolabi Legunsen**, August Shi. “*Comparing and Combining Analysis-Based and Learning-Based Regression Test Selection*”. 3rd ACM/IEEE International Conference on Automation of Software Test (AST 2022), pages 17–28, Pittsburgh, Pennsylvania, May 2022.
- ICSE 2021 [11] Yuanliang Zhang, Haochen He, **Owolabi Legunsen**, Shanshan Li, Wei Dong, and Tianyin Xu. “*An Evolutionary Study of Configuration Design and Implementation in Cloud Systems*”. 43rd International Conference on Software Engineering (ICSE 2021), pages 188–200, Virtual Conference, May 2021. Acceptance rate: 23% (138/602)
- OSDI 2020 [12] Xudong Sun, Runxiang Cheng, Jianyan Chen, Elaine Ang, **Owolabi Legunsen**, and Tianyin Xu. “*Testing Configuration Changes in Context to Prevent Production Failures*”. 14th USENIX Symposium on Operating Systems Design and Implementation (OSDI 2020), pages 735–751, Virtual Conference, November 2020. Acceptance rate: 17% (70/398)
- FSE 2020 [13] Qingrong Chen, Teng Wang, **Owolabi Legunsen**, Shanshan Li, and Tianyin Xu. “*Understanding and Discovering Software Configuration Dependencies in Cloud and Data-center Systems*”. 28th ACM European Software Engineering Conference & Symposium on the Foundations of Software Engineering (ESEC/FSE 2020), pages 725–737, Virtual Conference, November 2020. Acceptance rate: 28% (101/360)
- ICST 2020 [14] Breno Miranda, Igor Lima, **Owolabi Legunsen**, and Marcelo d’Amorim. “*Prioritizing Runtime Verification Violations*”. 13th IEEE International Conference on Software Testing, Verification and Validation (ICST 2020), pages 297–308, Virtual Conference, November 2020. Acceptance rate: 24% (27/114)

- JASE 2019 [15] **Owolabi Legunsen**, Nader Al Awar, Xinyue Xu, Wajih Ul Hassan, Grigore Roşu, and Darko Marinov. “*How Effective are Existing Java API Specifications for Finding Bugs during Runtime Verification?*”. Automated Software Engineering Journal (JASE), pages 26(4): 795-837, Invited journal submission, December 2019. Journal Extension of ASE 2016 paper.
- OOPSLA 2019 [16] August Shi, Milica Hadzi-Tanovic, Lingming Zhang, Darko Marinov, and **Owolabi Legunsen**. “*Reflection-Aware Static Regression Test Selection*”. 34th ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA 2019), pages 187:1–187:29, Athens, Greece, October, 2019. Acceptance rate: 36% (72/201)
- ICSE 2019 [17] Chenguang Zhu, **Owolabi Legunsen**, August Shi, and Milos Gligoric. “*A Framework for Checking Regression Test Selection Tools*”. 41st IEEE/ACM International Conference on Software Engineering (ICSE 2019), pages 430–441, Montreal, Canada, May 2019. Acceptance rate: 21% (109/529)
- ICST 2019 [18] **Owolabi Legunsen**, Yi Zhang, Milica Hadzi-Tanovic, Grigore Roşu, and Darko Marinov. “*Techniques for Evolution-Aware Runtime Verification*”. 12th IEEE International Conference on Software Testing, Verification and Validation (ICST 2019), pages 312–322, Xi’an, China, April 2019. Acceptance rate: 28% (31/110)
- FSE 2018 [19] Saikat Dutta, **Owolabi Legunsen**, Zixin Huang, and Sasa Misailovic. “*Testing Probabilistic Programming Systems*”. 26th ACM European Software Engineering Conference & Symposium on the Foundations of Software Engineering (ESEC/FSE 2018), pages 574–586, Lake Buena Vista, FL, November 2018. Acceptance rate: 21% (61/295)
- ISSRE 2018 [20] Alex Gyori, **Owolabi Legunsen**, Farah Hariri, and Darko Marinov. “*Evaluating Regression Test Selection Opportunities in a Very Large Open-Source Ecosystem*”. 29th IEEE International Symposium on Software Reliability Engineering (ISSRE 2018), pages 112–122, Memphis, TN, October 2018. Acceptance rate: 24% (23/96)
- ICSE 2018 [21] Jonathan Bell, **Owolabi Legunsen**, Michael Hilton, Lamyaa Eloussi, Tiffany Yung and Darko Marinov. “*DEFLEAKER: Automatically Detecting Flaky Tests*”. 40th IEEE/ACM International Conference on Software Engineering (ICSE 2018), pages 433–444, Gothenburg, Sweden, May-June 2018. Acceptance rate: 21% (105/502)
- ICST 2018 [22] Farah Hariri, August Shi, **Owolabi Legunsen**, Milos Gligoric, Sarfraz Khurshid, and Sasa Misailovic. “*Approximate Transformations as Mutation Operators*”. 11th IEEE International Conference on Software Testing, Verification and Validation (ICST 2018), pages 285–296, Västerås, Sweden, April 2018. Acceptance rate: 25% (30/119)
- ASE Demo '17 [23] **Owolabi Legunsen**, August Shi, and Darko Marinov. “*STARTS: STAtic Regression Test Selection*”. 32nd IEEE/ACM International Conference on Automated Software Engineering, Tool Demo (**ASE Demo 2017**), pages 949–954, Urbana-Champaign, IL, November 2017. Acceptance rate: 63% (20/32)
- FSE 2016 [24] **Owolabi Legunsen**, Farah Hariri, August Shi, Yafeng Lu, Lingming Zhang, and Darko Marinov. “*An Extensive Study of Static Regression Test Selection in Modern Software Evolution*”. 23rd ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE 2016), pages 583–594, Seattle, WA, November 2016. Acceptance rate: 28% (74/273)
- FSE Demo '16 [25] Alex Gyori, Ben Lambeth, August Shi, **Owolabi Legunsen**, and Darko Marinov. “*NonDex: A Tool for Detecting and Debugging Wrong Assumptions on Java API Specifications*”. 23rd ACM SIGSOFT International Symposium on the Foundations of Software Engineering, Tool Demo (FSE Demo 2016), pages 993–997, Seattle, WA, November 2016. Acceptance rate: 41% (13/32)

- ASE 2016 [26] **Owolabi Legunsen**, Wajih Ul Hassan, Xinyue Xu, Grigore Roşu, and Darko Marinov. “How Good are the Specs? A Study of the Bug-Finding Effectiveness of Existing Java API Specifications”. 31st IEEE/ACM International Conference on Automated Software Engineering (ASE 2016), pages 602–613, Singapore, Singapore, September 2016. Acceptance rate: 20% (57/298)
This paper won an ACM SIGSOFT Distinguished Paper Award and was invited for journal submission
- ICST 2016 [27] August Shi, Alex Gyori, **Owolabi Legunsen**, and Darko Marinov. “Detecting Assumptions on Deterministic Implementations of Non-deterministic Specifications”. 9th IEEE International Conference on Software Testing, Verification and Validation (ICST 2016), pages 80–90, Chicago IL, April 2016. Acceptance rate: 27% (34/130)
- ICSE NIER ’15 [28] **Owolabi Legunsen**, Darko Marinov, and Grigore Roşu. “Evolution-Aware Monitoring-Oriented Programming”. 37th IEEE/ACM International Conference on Software Engineering, NIER Track (ICSE NIER 2015), pages 615–618, Florence, Italy, May 2015. Acceptance rate: 19%, (25/135)
- ASE 2014 [29] Milos Gligoric, Stas Negara, **Owolabi Legunsen**, and Darko Marinov. “An Empirical Evaluation and Comparison of Manual and Automated Test Selection”. 29th IEEE/ACM Conference on Automated Software Engineering (ASE 2014), pages 361–372, Västerås, Sweden, September 2014. Acceptance rate: 20% (55/276)
- JSS [30] Lawrence Chung, Tom Hill, **Owolabi Legunsen**, Zhenzhou Sun, Adip Dsouza, and Sam Supakkul. “A Goal-Oriented Simulation Approach for Obtaining Good Private Cloud-Based System Architectures”. Journal of Systems and Software (JSS), pages 86(9): 2242–2262, Invited journal submission, 2013.

Students

I am working with the following excellent students:

- PhD Student Kevin Guan, won ACM SIGSOFT Distinguished Paper Award at ISSTA’24
- PhD Student Pengyue Jiang, awarded a Cornell CS Department Fellowship in 2023
- PhD Student Shinhae Kim, co-advised with Saikat Dutta, awarded a Cornell CS Department Fellowship in 2024
- Undergrad Alan Han

Alumni:

- PhD Student Yu Liu, Summer’24, co-supervised with Milos Gligoric, won ACM SIGSOFT Distinguished Paper Award at ISSTA’23, first job: Meta
- MS Student Valeria Marqués, Spring’24, first job: Apple
- MEng Student Tianxing Jiang, Spring’21, first Job: Citadel Securities, Chicago IL
- MEng Student Andres Hernandez Arciniegas, Spring’22, first Job: Komodo Health
- Undergrad Tito Maresca, Spring’23, first Job: JP Morgan Chase
- Undergrad Zachary Thurston, Spring’23, first Job: Goldman Sachs

Former students that I worked with at Cornell:

- PhD Student Ayaka Yorihiro, won NSF GRFP Honorable Mention in 2022, awarded a Cornell CS Department fellowship in 2020, switched to a different area after three years
- Undergrad Steven Long, worked with Alan Han in Spring’24

PhD Committee Membership:

UT Austin Chengpeng Li, advisor: August Shi
UT Austin Zhiqiang Zang, advisor: Milos Gligoric, defended in January 2024
Cornell Griffin Berstein, advisor: Adrian Sampson
Cornell Wen-Ding Li, advisor: Kevin Ellis

Students mentored as part of the UIUC+ Summer Research Program in Software Engineering:

UIUC Pengyue Jiang (Summer'22 to Summer'23. Next: PhD student at Cornell)
LUMS, Pakistan Muhammad Taha (Summer and Fall'22. Next: MS student at Purdue)
Zhejiang U. Yuxuan Jiang (Summer'22 to Summer'23. Next: PhD student at UMich)
USTC Cheng Ding (Fall'23. Next: PhD student at UT Austin)
METU Moustafa Ismail (Summer'22 till Fall'23. Next: PhD student at UCSB)
UIUC Jun Yang (Summer'23 till Spring'24. Next: PhD student at U of Chicago)
UIUC Kunle Li (Summer'22, Fall'22. Next: MS student at CMU)
METU Mahdi Khosravi (Summer'22 till Fall'23. Next: MS student at METU)
U. of Edinburgh Steven Shen (Summer'23 till Spring'24. Next: MS student at Cornell Tech)
Peking University Nan Huang (Summer'23.)
Uniandes Sebastian Urrea (Summer'23.)
UVA Junho Lee (Summer'23.)
CUHK Xiaoyuan Liu (Summer'23.)

Previous Research Advising (at UIUC)

At UIUC, I mentored and co-advised the research of six female graduate students and four undergraduate students. Of the 9, 7 co-authored at least one submission to a top Software Engineering or Systems venue with me.

MS Student Elaine Ang (First job: Google)
MS Student Milica Hadzi-Tanovic (Siebel Scholar '18. Next: Ph.D., TU Munich)
MS Student Xinyue Xu (First job: Google)
MCS Student Tiffany Yung (First job: Groupon)
MCS Student Felicia Chandra (ASE 2017 Web Chair. First job: NextCapital)
Undergrad Benjamin (Ben) Lambeth (BS, UIUC)
Undergrad Zixin Huang (Current: PhD Student, UIUC)
Undergrad (REU) Nader Al Awar (BS, American University of Beirut. Next: Ph.D., UT Austin)
Undergrad (REU) Karl Hajal (BS, American University of Beirut)

Funding

- 2024 – 2028 *SHF: Medium: Fine-Grained Software Testing*, PI: Owolabi Legunsen, co-PI: Milos Gligoric. National Science Foundation grant no. 2403035. Amount: \$1,200,000. Cornell amount: \$600k
- 2023 *Intel Rising Star Faculty Award*. Unrestricted gift. Amount: \$50k. Sole PI.
- 2023 – 2025 *FMitF: Track II: Cross-Language Support for Runtime Verification*, co-PI: Owolabi Legunsen, NSF Formal Methods in the Field grant No. 2319473. Amount: \$100k. PI: Marcel d’Amorim, Cornell amount: \$50k
- 2023 Google Cyber NYC Institutional Research Award. *Safe Program Generation and Deployment by Large Language Models*, PI: Kevin Ellis, co-PIs: Alexandra Silva, Owolabi Legunsen. Amount: \$80k. My share: \$26k
- 2021 – 2026 *CAREER: Specializing Runtime Verification for Software Testing*, NSF grant No. CCF-2045596. Amount: \$585k (plus \$16.8k REU). Sole PI.
- 2020 – 2021 *FMitF: Track II: EMOP: A Tool for Evolution-Aware Runtime Verification*, PI: Owolabi Legunsen, NSF Formal Methods in the Field grant No. CCF-2019277. Amount: \$100k. Sole PI.

Teaching Experience

- Cornell, Fall’24 Co-instructor for CS 2110: Object-Oriented Programming and Data Structures
- Cornell, Spring’24 Instructor for CS 6156: Runtime Verification
- Cornell, Fall’23 Instructor for CS 5154: Software Testing
- CMMRS, Aug’23 Lecturer for *Specializing Runtime Verification for Software Testing*, The Cornell, Maryland, Max Planck Pre-doctoral Research School (CMMRS), August 2023
- Cornell, June’23 Instructor for 1-week CSMORE Bootcamp
- Cornell, Spring’23 Instructor for CS 6156: Runtime Verification
- Cornell, Fall’22 Instructor for CS 5154: Software Testing
- Cornell, July ’22 Instructor for 1-week CSMORE Bootcamp
- Cornell, Spring’22 Instructor for CS 6156: Runtime Verification
- Cornell, Fall’21 Instructor for CS 5154: Software Testing
- Cornell, June ’21 Instructor for 1-week CSMORE Bootcamp
- Cornell, Spring’21 Instructor for CS 5154: Software Testing
- Cornell+UT, Jan’21 - Now Cornell-UT Austin weekly Software Engineering Seminar
- Cornell, Fall’20 Instructor for CS 6156: Runtime Verification
- UIUC, Fall’17 Project Mentor for CS 527: Advanced Topics in Software Engineering (10 graduate students)
- UIUC, Fall’14 Project Mentor for CS 527: Advanced Topics in Software Engineering (3 graduate students)
- UIUC, Fall’13 Teaching Assistant for CS 427: Software Engineering I (204 students)
- UTD, Spring’13 Teaching Assistant for CS 6371: Advanced Programming Languages (20 students)
- UTD, Spring’13 Teaching Assistant for CS 6362: Software Architectural Design (60 Students)
- UTD, Fall’12 Teaching Assistant for CS 6367: Software Testing, Validation and Verification (54 students)
- UTD, Fall’12 Teaching Assistant for CS 6387: Advanced Software Engineering Project (16 Students)

Some Open-Source Software Contributions

My GitHub ID	https://github.com/owolabileg
eMOP	eMOP is an evolution-aware runtime verification tool. It allows developers to perform runtime verification incrementally as software evolves, with the goal to make runtime verification easier to use during software testing. eMOP can be found at https://github.com/SoftEngResearch/emop
JavaMOP	JavaMOP is a runtime verification tool. It allows developers to monitor program executions against formal specifications. I contribute regularly to the development of JavaMOP as part of my research to make runtime verification easier to use during software testing. My fork of JavaMOP can be found at https://github.com/SoftEngResearch/tracemop
Found 500+ bugs in 100+ open-source projects	Bugs reported under the following GitHub pseudonyms for double-blind review: emopers , flakycov , lazypanda1 , and testingsavvy . My research helped discover over 500 bugs in more than 100 open-source projects, including critical and well-tested applications (Apache Zookeeper, Apache Pig, Joda-Time, ActiveMQ, CheckStyle, etc.), testing/analysis frameworks (TestNG, bcel, Clover, Ekstazi, etc.), probabilistic programming systems (Edward, Pyro, Stan), and machine learning frameworks (TensorFlow and PyTorch)
STARTS (Static Regression Test Selection)	I lead research and development of STARTS, a tool to reduce regression testing costs by rerunning only tests that can change behavior due to code changes. STARTS saves up to 80% of testing time on medium-sized open-source projects. STARTS can be found at https://github.com/TestingResearchIllinois/start
NonDex	NonDex detects flaky tests caused by developers' wrong assumptions about under-determined specification. Flaky tests non-deterministically pass or fail for the same code. NonDex was adopted by CheckStyle. NonDex can be found at https://github.com/TestingResearchIllinois/nondex
DeFlaker	DeFlaker determines that a test is flaky if the test failed but did not cover any changed code. DeFlaker uses a novel differential coverage approach to check if test failures are flaky. DeFlaker can be found at http://www.deflaker.org
ProbFuzz	ProbFuzz extends compiler fuzzing to the domain of probabilistic and approximate programming, and is the first automated framework for systematically testing probabilistic programming systems. ProbFuzz can be found at https://www.probfuzz.com

External Committee Service

PC Member	International Conference on Software Engineering (ICSE), 2025
RC Member	Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA), 2024
PC Member	International Symposium on Software Testing and Analysis, Tool Demonstrations track (ISSTA-Demo), 2024
PC Member	Java PathFinder Workshop (JPF), 2023
Co-Editor	International Journal on Software Tools for Technology Transfer (STTT) Special Issue on SPIN 2022 and SPIN 2023
PC Member	Programming Language Design and Implementation (PLDI), 2023
PC Member	International Symposium on Software Testing and Analysis (ISSTA), 2023
PC Member	ESEC/FSE Student Research Competition, 2023

Reviewer	Transactions on Software Engineering and Methodology (TOSEM), 2023
Reviewer	Journal of Systems and Software (JSS), 2023
Co-Organizer	International Symposium on Model Checking of Software (SPIN), 2022
PC Member	International Conference on Foundations of Software Engineering (FSE), 2022
PC Member	International Conference on Software Engineering (ICSE), 2022
PC Member	International Conference on Computer-Aided Verification (CAV), 2021
Co-Organizer	International Symposium on Model Checking of Software (SPIN), 2020. <i>All the organizational work for this event was done. But we decided to cancel shortly before the paper submission deadline because of the COVID pandemic</i>
PC Member	Languages and Tools for Next Generation Testing Workshop (LANGETI), 2020
PC Member	OOPSLA Student Research Competition, 2020
PC Member	International Conference on Automated Software Engineering (ASE), 2020
Demo Co-Chair	International Symposium on Software Testing and Analysis (ISSTA), 2020
PC Member	International Conference on Software Testing, Verification and Validation (ICST), Industry Track, 2020
PC Member	International Symposium on Software Testing and Analysis (ISSTA), Artifact Evaluation Committee, 2017
Student Volunteer Chair	International Conference on Automated Software Engineering (ASE), 2017
Co-Reviewer	ICSE 2020, ICST 2020, RV 2019, DATE 2019, ISSTA 2018, FM 2018, (Programming) 2017, ASE 2016, ICST 2016, TACAS 2016, ASE 2015, RV 2015, HVC 2014, ICSE 2014, ASE 2013

Other Service to Professional Community

Panelist	ISSTA 2023 Doctoral Symposium
Faculty Mentor	ICSE 2022 Mentorship Program, Pittsburgh, May 2022
Student Volunteer	ESEC/FSE 2015, Bergamo, Italy, September 2015
Student Member	CS Department Graduate Student Admissions Application Review Committee, UIUC, Fall/Summer 2016
CS Ambassador	CS Department Graduate Student Ambassador for 2 incoming Ph.D. students at UIUC in Fall 2016
Mentor	Mentored 5 new Ph.D. Students to help them transition to life in CS Department at UIUC
Co-organizer	Brett Daniel Software Engineering Seminar for Fall 2015 at UIUC
Co-teacher	Taught one class on “Software Testing for Fun, Fame and maybe even Profit” to 19 high school students, UIUC, Spring 2015
Volunteer	ASPIRE UIUC Campus Visit Program for Underrepresented Minorities. Met 2 candidates, UIUC, Fall 2014

Funding Evaluation

Remote Reviewer	Reviewed 1 proposal for European Research Council (ERC), 2023
Panelist	Reviewed 1 proposal for the Natural Sciences and Engineering Research Council (NSERC) of Canada, 2023
NSF Panelist	Two remote panels at the National Science Foundation (NSF), 2021

Presentations

- Guest Lecture *Introduction to Software Engineering Research*, CSMore, Cornell University, Summer 2024
- Invited Talk *Specializing Runtime Verification for Software Testing*, S3D Distinguished Speaker Series at Carnegie Mellon University, Pittsburgh, November 2023
- Invited Talk *Specializing Runtime Verification for Software Testing*, National University of Singapore Programming Languages and Software Engineering Seminar, remote, November 2023
- Panelist *My Job Search Experience*, CS591SCH: PhD Job Search Seminar, UIUC, Fall 2023
- Invited Talk *Integrating Runtime Verification & Software Testing*, IFIP Working Group 2.4, York Harbor, April 2023
- Panelist *My Job Search Experience*, CS591SCH: PhD Job Search Seminar, UIUC, Fall 2021
- Guest Lecture *Integrating Runtime Verification & Software Testing*, EE360T, UT, Spring 2021
- Invited Talk *Integrating Runtime Verification & Software Testing*, IST Austria, January 2021
- Panelist *Insights into the Academic Job Search*, CS Brown Bag Seminar, Cornell, Fall 2020
- Guest Lecture *Regression Testing*, CSMore, Cornell University, Summer 2020
- Guest Lecture *Combining Runtime Verification and Software Testing*, CS 427, UIUC, Fall 2019
- Invited Talk *Evolution-Aware Runtime Verification*, Cornell University, April 2019
- Invited Talk *Evolution-Aware Runtime Verification*, U. of Southern California, April 2019
- Invited Talk *Evolution-Aware Runtime Verification*, Michigan State University, April 2019
- Invited Talk *Evolution-Aware Runtime Verification*, Oregon State University, April 2019
- Invited Talk *Evolution-Aware Runtime Verification*, Texas A&M University, April 2019
- Invited Talk *Evolution-Aware Runtime Verification*, U. of Maryland College Park, April 2019
- Invited Talk *Evolution-Aware Runtime Verification*, U. of Nebraska at Lincoln, March 2019
- Invited Talk *Evolution-Aware Runtime Verification*, University of Minnesota, March 2019
- Invited Talk *Evolution-Aware Runtime Verification*, UMass Amherst, March 2019
- Invited Talk *Evolution-Aware Runtime Verification*, UC Santa Cruz, March 2019
- Invited Talk *Evolution-Aware Runtime Verification*, UC San Diego, March 2019
- Invited Talk *Evolution-Aware Runtime Verification*, University of Rochester, March 2019
- Invited Talk *Evolution-Aware Runtime Verification*, U. of Illinois at Chicago, March 2019
- Invited Talk *Evolution-Aware Runtime Verification*, UT Austin, February 2019
- Invited Talk *Evolution-Aware Runtime Verification*, UC Santa Barbara, February 2019
- Invited Talk *Evolution-Aware Runtime Verification*, George Mason University, February 2019
- Invited Talk *Evolution-Aware Runtime Verification*, Drexel University, February 2019
- Seminar *Evolution-Aware Runtime Verification*, University of Michigan, Fall 2018
- Seminar *Evolution-Aware Runtime Verification*, George Mason University, Fall 2018
- Seminar *Evolution-Aware Runtime Verification*, Georgia Institute of Technology, Fall 2018
- Guest Lecture *Regression Testing: Challenges and Advances*, CS 598 (Reliability of Cloud-Scale Systems), UIUC, Fall 2018
- Conference Talk and Tool Demo *STARTS: STatic Regression Test Selection*, ASE 2017, November 2017, Urbana-Champaign, IL
- Poster *STARTS: STatic Regression Test Selection*, Huawei, October 2017, Urbana-Champaign, IL

- Guest Lecture *An Extensive Study of Static Regression Test Selection in Modern Software Evolution*, CS 527 (Topics in SE), UIUC, Fall 2017
- Guest Lecture *An Extensive Study of Static Regression Test Selection in Modern Software Evolution*, CS 498ST (Software Testing), UIUC, Fall 2017
- Guest Lecture *An Extensive Study of Static Regression Test Selection in Modern Software Evolution*, CS 427 (Software Engineering I), UIUC, Fall 2017
- Guest Lecture *An Extensive Study of Static Regression Test Selection in Modern Software Evolution*, CS 427 (Software Engineering I), UIUC, Fall 2016
- Conference Talk *An Extensive Study of Static Regression Test Selection in Modern Software Evolution*, FSE 2016, Seattle, November 2016
- Poster and Tool Demo *NonDex: A Tool for Detecting and Debugging Wrong Assumptions on Java API Specifications*, FSE 2016, Seattle, November 2016
- Conference Talk *How Good Are the Specs? A Study of the Bug-Finding Effectiveness of Existing Java API Specifications*, ASE 2016, Singapore, September 2016
- Seminar Talk *How Good Are the Specs? A Study of the Bug-Finding Effectiveness of Existing Java API Specifications*, Brett Daniel Software Engineering Seminar, UIUC, September 2016
- Guest Lecture *How Good Are the Specs? A Study of the Bug-Finding Effectiveness of Existing Java API Specifications*, CS 527 (Topics in SE), UIUC, Fall 2016
- Seminar Talk *Evolution-Aware Monitoring-Oriented Programming*, Brett Daniel Software Engineering Seminar, UIUC, September 2015
- Seminar Talk *Evolution-Aware Monitoring-Oriented Programming*, Postgraduate Seminar, CSE Department OAU, March 2015
- Guest Lecture *An Empirical Evaluation and Comparison of Manual and Automated Test Selection*, CS 527 (Topics in SE), UIUC, Fall 2014