Curriculum Vitae

Paul Gazzillo

contact@pgazz.com
paulgazzillo.com

Academic Experience

Appointments at University of Central Florida

2018-Now Assistant Professor, Department of Computer Science

2018-Now Core Member, Cyber Security and Privacy Faculty Research Cluster

2022-Now Seconary Joint Appointment, Department of Electrical and Computer Engineering

Previous Academic Experience

2017-2018 Research Scholar, Stevens Institute of Technology, Hoboken, NJ
Co-Advisors: Eric Koskinen (Stevens Institute) and Michael Hicks (UMD College Park)

2016-2017 Post-Doctoral Associate, Yale University, New Haven, CT
Advisor: Eric Koskinen

2014-2015 MacCracken Fellow, New York University, New York, NY
Advisor: Thomas Wies

2011-2014 Research Assistant, New York University, New York, NY
Advisor: Robert Grimm

2010 Junior Research Scientist (Summer), New York University, New York, NY
Advisor: Robert Grimm

Education

2016 PhD Computer Science, Courant Institute, New York University, New York, NY
Advisors: Robert Grimm, Thomas Wies
Thesis: Analyzing Source Code Across Static Conditionals
Fellowships: MacCracken (2014-2015); Global Research Initiative (Spr 2013)

2011 MS Computer Science, Courant Institute, New York University, New York, NY
Advisor: Robert Grimm
Thesis: Configuration-Preserving C Parsing

2003 BS Computer Science and Mathematics, Rutgers University, New Brunswick, NJ

Awards and Honors

Apr 2021 DARPA Young Faculty Award

Jan 2020 NSF CAREER Award

Oct 2012 SIGPLAN Research Highlight for SuperC (PLDI 2012)

May 2012 Matthew Smosna Prize, Courant Institute, New York University

Sponsored Research and Funding

External Grants: As Principal Investigator

1. NSF CCRI-2234909 Collaborative Research: CCRI: Planning-C: A Community for Configurability Open Research and Development (ACCORD)
   $50k (100%) share; Jun. 2021 to Dec. 2022; PI: Paul Gazzillo. (This is part of a $100k multi-institution grant with Myra B. Cohen at Iowa State.) `https://nsf.gov/awardsearch/showAward?AWD_ID=2234909`

2. DARPA YFA: Tracking Corporate Relationships at Scale with Automated Reasoning.
   proposed $491k (100% share); Aug. 2021–2023; PI: Paul Gazzillo. `https://www.darpa.mil/attachments/YFAAwardees2021.pdf`

3. NSF CCF-1941816 CAREER: Inferring and Securing Software Configurations through Automated Reasoning.
   $419k (100% share); Jun. 2020–2025; PI: Paul Gazzillo. `https://nsf.gov/awardsearch/showAward?AWD_ID=1941816`

4. NSF CCF-1840934 SHF: Small: Collaborative Research: Static Analysis Infrastructure for Variability-Aware Bug Detection and Translation of Highly-Configurable Software Systems.
   $229k (100% share); Oct. 2018–2022; PI: Paul Gazzillo. (This is part of a $470k multi-institution grant with Shiyi Wei at UT Dallas.) `https://nsf.gov/awardsearch/showAward?AWD_ID=1840934`
   - Research Experience for Undergraduates (REU) Supplement $8k, Summer 2020
   - Research Experience for Undergraduates (REU) Supplement $16k, Summer 2019

External Grants: As Senior Personnel

5. NSF DGE-2042996 CyberCorps Scholarship for Service: Workforce Training and Preparation in Cybersecurity and Privacy
   $2.9mil (2% share); Feb. 2021–2026; PI: Changchun Zou; Co-PIs: Yan Solihin, Michael Posey, David Mohaisen, Yao Li. `https://nsf.gov/awardsearch/showAward?AWD_ID=2042996`

University-Level

6. Exploratory Research: Studying How Programmers Express Ideas as Code to Improve Software Security
   $25k (100% share); Aug. 2022–2023

7. Strategic Investment Program: Advancing Interdisciplinary Cyber Security and Privacy Research at UCF
   $150k (20% share); Fall 2021–Spring 2022; Mary Jean Amon, Paul Gazzillo (Lead), Gary T. Leavens, Yao Li, David Mohaisen, Yan Solihin, Liqiang Wang, Changchun Zou. `https://provost.ucf.edu/sip-awards/`

8. Strategic Investment Program: Online Master of Science in Cybersecurity and Privacy at the University of Central Florida
   $175k (10% share); Fall 2021–Spring 2022; Mary Jean Amon, Paul Gazzillo, Gary T. Leavens, Yao Li, David Mohaisen (Lead), Yan Solihin, Liqiang Wang, Changchun Zou. `https://provost.ucf.edu/sip-awards/`

Industry Experience

2018 Core Team, Taraxa.io

2013 Software Engineering Intern (Summer), Google, Mountain View, CA

2009 Financial Software Development Intern (Summer), Bloomberg LP, New York, NY

2004-2008 Research Data Analyst, Educational Testing Service, Princeton, NJ

Refereed Journal Articles

1. "Static Data-Flow Analysis for Software Product Lines in C: Revoking the Preprocessor's Special Role"* by Philipp Dominik Schubert, Paul Gazzillo, Zach Patterson, Julian Braha‡, Fabian Schiebel, Ben Hermann, Shiyi Wei, Eric Bodden. Automated Software Engineering (ASE), 2022. `https://doi.org/10.1007/s10515-022-00333-1`

2. "Adding Concurrency to Smart Contracts"** by Thomas Dickerson, Paul Gazzillo, Maurice Herlihy, and Eric Koskinen. Distributed Computing (DIST), Volume 33, June, 2020. `https://doi.org/10.1007/s00446-019-00357-z`

3. "How to add concurrency to smart contracts"** by Thomas Dickerson, Paul Gazzillo, Maurice Herlihy, and Eric Koskinen. Bulletin of the European Association for Theoretical Computer Science (EATCS). ISSN 0252-9742. Number 124. 22-33, February 2018. `https://eatcs.org/images/bulletin/beatcs124.pdf`

Refereed Conference Proceedings

1. "Semantic Analysis of Macro Usage for Portability"* by Brent Pappas† and Paul Gazzillo. Proceedings of the International Conference on Software Engineering (ICSE), 2024. `https://doi.org/10.1145/3597503.3623323`

2. "Bringing Together Configuration Research: Towards a Common Ground"‖ by Paul Gazzillo and Myra B. Cohen. Onward! 2022: Proceedings of the 2022 ACM SIGPLAN International Symposium on New Ideas, New Paradigms, and Reflections on Programming and Software. `https://doi.org/10.1145/3563835.3568737`

3. "SugarC: Scalable Desugaring of Real-World Preprocessor Usage into Pure C"* by Zach Patterson, Zenong Zhang, Brent Pappas†, Shiyi Wei, and Paul Gazzillo. Proceedings of the International Conference on Software Engineering (ICSE), 2022. `https://doi.org/10.1145/3510003.3512763`
   Acceptance Rate: 26% (197 out of 751 submissions)

4. "Finding Broken Linux Configuration Specifications by Statically Analyzing the Kconfig Language"‖* by Jeho Oh††, Necip Fazıl Yıldıran†, Julian Braha‡, and Paul Gazzillo. Proceedings of the 29th ACM Joint Meeting on European Software Engineering Conference

†Graduate Research Assistant Advisee
††Graduate Research Assistant Co-advisee
‡Undergraduate Research Assistant Advisee
‖Co-first authors
*Authors in student/post-doc contribution order with principal/senior researchers at the end
**Authors in alphabetical order

and Symposium on the Foundations of Software Engineering (ESEC/FSE), 2021. https://doi.org/10.1145/3468264.3468578
Acceptance Rate: 24% (97 out of 396 submissions)

5. "SeMPE: Secure Multi Path Execution Architecture for Removing Conditional Branch Side Channels"* by Andrea Mondelli, Paul Gazzillo, and Yan Solihin. 2021 58th ACM/IEEE Design Automation Conference (DAC), 2021. https://www.doi.org/10.1109/DAC18074.2021.9586183
Acceptance Rate: 23%

6. "Inferring and Securing Software Configurations Using Automated Reasoning" by Paul Gazzillo Proceedings of the 28th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering, Visions & Reflections Track (ESEC/FSE VR), 2020. https://doi.org/10.1145/3368089.3417041
Acceptance Rate: 38% (8 out of 21 submissions)

7. "Conflict Abstractions and Shadow Speculation for Optimistic Transactional Objects"* by Thomas Dickerson, Eric Koskinen, Paul Gazzillo, and Maurice Herlihy. Asian Symposium on Programming Languages and Systems (APLAS), 2019. https://www.doi.org/10.1007/978-3-030-34175-6_16
Acceptance Rate: 44% (22 out of 50 submissions)

8. "t-wise Coverage by Uniform Sampling"* by Jeho Oh††, Paul Gazzillo, and Don Batory. Proceedings of the 23rd International Systems and Software Product Line Conference, Challenge Track (SPLC CC), 2019. https://doi.org/10.1145/3336294.3342359

9. "An Empirical Study of Real-World Variability Bugs Detected by Variability-Oblivious Tools"* by Austin Mordahl, Jeho Oh††, Ugur Koc, Shiyi Wei and Paul Gazzillo Proceedings of the 2019 27th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE), 2019. https://doi.org/10.1145/3338906.3338967
Acceptance Rate: 24% (74 out of 303 submissions)

10. "Conditional Compilation is Dead, Long Live Conditional Compilation!"* by Paul Gazzillo and Shiyi Wei. "Proceedings of the 41st International Conference on Software Engineering: New Ideas and Emerging Results (ICSE NIER)", 2019. https://doi.org/10.1109/ICSE-NIER.2019.00035
Acceptance Rate: 27% (25 out of 92 submissions)

11. "Localizing Configurations in Highly-Configurable Systems"** by Paul Gazzillo, Ugur Koc, ThanhVu Nguyen, and Shiyi Wei. Proceedings of the 22Nd International Systems and Software Product Line Conference, Challenge Track (SPLC CC), 2018. https://doi.org/10.1145/3233027.3236404

12. "Kmax: Finding All Configurations of Kbuild Makefiles Statically" by Paul Gazzillo. Proceedings of the 2017 11th Joint Meeting on Foundations of Software Engineering (ESEC/FSE), 2017. https://doi.org/10.1145/3106237.3106283
Acceptance Rate: 24% (72 out of 295 submissions)

13. "Adding Concurrency to Smart Contracts"** by Thomas Dickerson, Paul Gazzillo, Maurice Herlihy, and Eric Koskinen. Proceedings of the ACM Symposium on Principles of Distributed Computing (PODC), 2017. https://doi.org/10.1145/3087801.3087835
Acceptance Rate: 25% (38 out of 154 submissions)

14. "Brief Announcement: Proust: A Design Space for Highly-Concurrent Transactional Data Structures"** by Thomas Dickerson, Paul Gazzillo, Maurice Herlihy, and Eric Koskinen. Proceedings of the ACM Symposium on Principles of Distributed Computing (PODC), 2017. https://doi.org/10.1145/3087801.3087866

15. "Decomposition Instead of Self-Composition for Proving the Absence of Timing Channels"** by Timos Antonopoulos, Paul Gazzillo, Michael Hicks, Eric Koskinen, Tachio Terauchi, and Shiyi Wei. Proceedings of the 38th ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI). http://dx.doi.org/10.1145/3062341.3062378
Acceptance Rate: 15% (47 out of 322 submissions)

16. "SuperC: Parsing All of C by Taming the Preprocessor"* by Paul Gazzillo and Robert Grimm. Proceedings of the 33rd ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI), pp. 323-334, June 2012. https://doi.org/10.1145/2345156.2254103
Acceptance Rate: 19% (48 out of 255 submissions)
SIGPLAN Research Highlights Paper

Refereed Workshop Proceedings

1. "Proof-Carrying Smart Contracts" by Thomas Dickerson, Paul Gazzillo, Maurice Herlihy, Vikram Saraph, and Eric Koskinen. Workshop on Trusted Smart Contracts (WTSC), 2018. https://doi.org/10.1007/978-3-662-58820-8_22

Technical Reports

1. "Uniform Sampling from Kconfig Feature Models" by Jeho Oh††, Paul Gazzillo, Don Batory, Marijn Heule, and Maggie Myers. Technical Report TR-19-02, Department of Computer Science, University of Texas at Austin, 2019. https://apps.cs.utexas.edu/apps/tech-reports/171355

2. "Multi-Objective Optimization in Large Software Product Lines" by Jeho Oh††, Don Batory, and Paul Gazzillo. Technical Report TR-18-02, Department of Computer Science, University of Texas at Austin, 2018. https://apps.cs.utexas.edu/apps/tech-reports/106830

3. "Proust: A Design Space for Highly-Concurrent Transactional Data Structures" by Thomas Dickerson, Paul Gazzillo, Maurice Herlihy, and Eric Koskinen. arXiv:1702.04866v1 16 Feb 2017. https://arxiv.org/abs/1702.04467

4. "Vertical Composition of Reversible Atomic Objects" by Timos Antonopoulos, Paul Gazzillo, Eric Koskinen, and Zhong Shao. Technical Report YALEU/DCS/TR1529, Computer Science Department, Yale University, 2016. http://cpsc.yale.edu/sites/default/files/files/tr1529.pdf

5. "Kmax: Analyzing the Linux Build System" by Paul Gazzillo. Technical Report TR2015-976, Computer Science Department, New York University, 2015. https://cs.nyu.edu/media/publications/TR2015-976.pdf

6. "Parsing all of C by taming the preprocessor" by Paul Gazzillo and Robert Grimm. Technical Report TR2011-939, Computer Science Department, New York University, 2011. https://cs.nyu.edu/media/publications/TR2011-939.pdf

Patents

2017 Adding Concurrency to Smart Contracts (patent pending)

2014 Configuration-Preserving Preprocessor, 9,389,842, issued 2016

2013 Configuration-Preserving Preprocessor and Configuration-Preserving Parser, 8,806,456, issued 2014

2008 Data Structure for Defining a Chart, application 2008/0086679

2008 Method and System for XML Multi-Transform, 9,189,464, issued 2015

Dissertation

2016 "Analyzing Source Code Across Static Conditionals" by Paul Gazzillo. PhD Thesis, Department of Computer Science, New York University.

Advising

PhD Researchers

2022-Now Sanan Hasanov

2021-Now Brent Pappas

2022-2023 Stephen Maldonado

2019-2022 Jeho Oh, University of Texas at Austin, Co-Advised with Prof. Don Batory (Graduated, Joined Appled)

Fall 2022 Austin Davis

2020-2022 Necip Yıldıran (Graduated, Joined Google as an SWE)

Fall 2021 Ronaldo Cunha

2020-2021 Ryan Dozier (Co-Advised with Prof. Damian Dechev)

Fall 2019 Sayma Sultana

MS Researchers

2021-Now Zoran Kolega (Spring 2021 as undergraduate)

Sum 2023 Rodrigo Vena Garcia

2021-2022 Kaarthik Alagappan (2019-2021 as undergraduate) (Graduated, Joined Walmart)

Fall 2021 Julian Braha (2019-2021 as undergraduate)

Software Engineers

2021-Now John Stoner

Undergraduate Researchers

2021-Now Tsehai Boucaud, Undergraduate Research Assistant and Spring 2022 CAHSI REU Mentee

2023 Sharu Abraham, Undergraduate Research Assistant and Spring 2023 CAHSI REU Mentee

2020-2021 Alexandra Arriola, EXCEL Program and Undergraduate Research Assistant

2019-2021 Genoveva Fossas, Undergraduate Research Assistant (Joined NEU as a CS PhD student)

2019-2021 Joshua Santana, NSF Research Experience for Undergraduates (2019), Undergraduate Research Assistant (Joined Microsoft as an engineer)

Spr 2020 Reeder Ward, Undergraduate Research Assistant

Sum 2019 Pradheep Kethi-Reddy, NSF Research Experience for Undergraduates (REU)

Spr 2019 Jia Jin Koay, Undergraduate Research Assistant

PhD Dissertation Committees

As Chair

2020-2022 Necip Fazıl Yıldıran, Computer Science, University of Central Florida

As Member

2023-Now Alexander Goponenko, Computer Science, University of Central Florida

2022-Now Derrick Greenspan, Computer Science, University of Central Florida

2022-2023 Zachary Patterson, Computer Science, University of Texas at Dallas

2021-2022 Jeho Oh, Computer Science, University of Texas at Austin

2019-2022 Bingbing Rao, Computer Science, University of Central Florida

2019-2021 Amirfarhad Nilizadeh, Computer Science, University of Central Florida

2020-2021 Vamsee Reddy Kommareddy, Computer Engineering, University of Central Florida

2020 Mohammed Abuhamad, Computer Science, University of Central Florida

Masters Thesis Committees

2021-2022 Committee Member, Kohei Koja, Computer Science, University of Central Florida

2020-2021 Committee Member, Faishal Wahiduddin, Computer Science, University of Central Florida

Honors Thesis Committees

2019-2020 Committee Member, Curtis Helsel, Computer Science, University of Central Florida

Independent Studies

Sum 2020 Zachary Lyons, Analysis of Configurable Software.

Sum 2019 Geoffrey Hufford, Software Engineering for Build and Configuration Systems.

Senior Design Projects

2020 Learning Programming with the 2DS (Spring and Fall 2020)

2020 Security fault prediction, continued (Spring and Fall 2020)

2019 Security fault prediction (Spring and Fall 2019)

2019 Cyptocurrency exchange (Spring and Fall 2019)

2019 Concurrent smart contracts (co-sponsor) (Spring and Fall 2019)

Teaching Experience

As Instructor

Spr 2023 Instructor, COP-5621 Compiler Construction, University of Central Florida
Teaching Evaluations: Overall 4.25 out of 5.00
(4 of 6 students responding)
(Department: 3.98; University: 4.17)

Spr 2022 Instructor, COP-5621 Compiler Construction, University of Central Florida
Teaching Evaluations: Overall 5.00 out of 5.00
(6 of 10 students responding)
(Department: 3.97; University: 4.17)

Spr 2021 Instructor, COP-5611 Operating Systems Design Principles, University of Central Florida
Teaching Evaluations: Overall 4.38 out of 5.00
(13 of 27 students responding)
(Department: 4.12; University: 4.18)

Fall 2020 Instructor, COP-3402 Systems Software, University of Central Florida
Teaching Evaluations: Overall 4.59 out of 5.00
(68 of 120 students responding)
(Department: 4.03; University: 4.15)

Spr 2020 Instructor, COP-5021 Program Analysis, University of Central Florida
Teaching Evaluations: Overall 4.45 out of 5.00
(13 of 23 students responding)
(Department: 3.89; University: 3.97)

Fall 2019 Instructor, COP-3402 Systems Software, University of Central Florida
Teaching Evaluations: Overall 4.20 out of 5.00
(155 of 249 students responding)
(Department: 3.97; University: 4.14)

Spr 2019 Instructor, COP-3402 Systems Software, University of Central Florida
Teaching Evaluations: Overall 4.05 out of 5.00
(77 of 199 students responding)
(Department: 3.99; University: 4.15)

Fall 2018 Instructor, COP-3402 Systems Software, University of Central Florida
Teaching Evaluations: Overall 4.49 out of 5.00
(126 of 215 students responding)
(Department: 4.00; University: 4.12)

As Assistant

Spr 2015 Recitation Leader, Data Structures, New York University

Fall 2014 Recitation Leader, Data Structures, New York University

Spr 2010 Teaching Assistant, Compilers, New York University

Spr 2010 Teaching Assistant, Operating Systems, New York University

Fall 2009 Teaching Assistant, Computer Organization, New York University

Talks

Sep 2021	"Finding Unmet Dependencies in Kconfig with the Kismet Static Analyzer", The Linux Foundation, OSS 2021
Aug 2021	"Finding Broken Linux Configuration Specifications by Statically Analyzing the Kconfig Language", ESEC/FSE 2021
Apr 2021	"Helping Linux Maintainers Localize Configurations: Progress towards a Comprehensive Solution", FOSD 2021
Nov 2020	"Inferring and Securing Software Configurations using Automated Reasoning", Visions and Reflections, ESEC/FSE 2020
Oct 2020	"When You Come to a Fork in the Road, Take It: Finding Configuration Constraints from Kconfig, Kbuild, and the C Preprocessor", Open Source Summit Europe, The Linux Foundation
Mar 2020	"Free Software Enables Free Science", LibrePlanet 2020
Aug 2019	"Good Engineering Makes for Good Science", The Third ROSE Festival, ESEC/FSE 2019, Tallinn, Estonia
June 2019	"Conditional Compilation is Dead, Long Live Conditional Compilation!", The International Conference on Software Engineering: New Ideas and Emerging Results Track, Montreal, Canada
May 2019	Guest Talk: "Can We Replace the Preprocessor by Extending C?", The 3rd Summit on Advances in Programming Languages, Providence, RI
May 2019	Invited Talk: "Security Considerations for Highly-Configurable Software", 1st International Conference on Smart Tourism, Smart Cities and Enabling Technologies.
Sep 2018	"Localizing Configurations in Highly-Configurable Systems", International Systems and Software Product Line Conference, Challenge Track, Gothenburg, Sweden
Mar 2018	"Automating Safe and Secure Software Development", University of South Florida, Tampa, FL
Mar 2018	"Automating Safe and Secure Software Development", University of Central Florida, Orlando, FL
Feb 2018	"Automating Safe and Secure Software Development", University of Vermont, Burlington, VT
Sep 2017	"Kmax: Finding All Configurations of Kbuild Makefiles Statically", European Software Engineering Conference and Foundations of Software Engineering (ESEC/FSE).
Jul 2017	"Adding Concurrency to Smart Contracts", Symposium on Principles of Distributed Computing (PODC), Washington, DC
Jun 2017	"Decomposition Instead of Self-Composition for Proving the Absence of Timing Channels", Programming Language Design and Implementation (PLDI), Universitat Politècnica de Catalunya, Barcelona, Spain
Jun 2017	"Decomposition Instead of Self-Composition for Proving the Absence of Timing Channels", New England Programming Languages and Systems Symposium (NEPLS), University of Massachusetts, Lowell, MA
Apr 2017	Invited Talk: "Adding Concurrency to Smart Contracts", Shanghai Jiao Tong University, Shanghai, China
Mar 2017	"Enabling Variability-Aware Software Tools" Feature-Oriented Software Development Conference (FOSD), Technische Universität Darmstadt, Darmstadt, Germany

Sep 2016 "Tackling Variability Bugs", NJ Programming Languages and Systems Seminar (NJ-PLS), Rutgers University, NJ

Jan 2016 Invited Talk: "Enabling Variability-Aware Software Tools", Carnegie Mellon University Institute for Software Research, Pittsburgh, PA

Nov 2015 "Enabling Variability-Aware Software Tools", IBM Programming Languages Day, Yorktown Heights, NY

Jun 2012 "Parsing All of C by Taming the Preprocessor", Programming Language Design and Implementation (PLDI), Beijing, China

May 2006 "GraphicML: A Markup Language for Describing Charts", John W. Tukey Seminar on Data Preparation and Presentation, ETS, Princeton, NJ

Software Artifacts

Krepair Advisee Necip Yıldıran and I developed a tool[1] to automatically repair a Linux configuration file so that it covers the changes made in a given patch.

SugarC We developed a transformation[2] from unpreprocessed C to pure C using SuperC to enable static analysis of all configurations, i.e., family-based analysis of sotware product lines (ICSE 2022).

Kismet Advisee Necip Yıldıran developed a verification-based static analysis[1] for automatically identifying unmet dependency bugs in Linux Kconfig specifications (ESEC/FSE 2021). This tool has been included in the Intel 0-day kernel test robot and sends automated reports to the Linux kernel mailing list (May 2022).

Kconfig Case Studies We developed case studies[3] of systems software that use the Kconfig and Kbuild configuration and build management tools. This is includes thousands of validated configuration samples; tools to run Kmax, Kclause, and various bug-finders on them; a variability-bug finding simulation framework; and resulting data (ESEC/FSE 2019, TR 2019, TR 2018).

Klocalizer We designed and built a tool[1] to report all configurations leading to a given C file in software using Kconfig/Kbuild.

Kclause We designed and built a tool[1] to compile Kconfig specifications into the DIMACS format and to Z3 expressions (ESEC/FSE 2021).

Kmax I designed and built a static analyzer[1] for Kbuild Makefiles that collects symbolic configurations fro the Linux build system (NYU TR 2015, ESEC/FSE 2017).

Concurrent smart contracts We created a prototype implementation with benchmarks (PODC 2017).

Proust A boosting library implemented on top of ScalaSTM. I made minor contributions to the library, but built the smart contract implementation for PODC '17 on top of it.

Blazer We created and implemented static analyses for finding complexity and side-channel attacks (PLDI 2017).

RAO I built a prototype implementation of the transactional universal construction for Reversible Atomic Objects (Yale TR 2016).

Courgette I contributed to Google Chrome's unique compression algorithm[4] for enabling smaller

[1] `https://github.com/paulgazz/kmax`

[2] `https://github.com/appleseedlab/superc`

[3] `https://github.com/paulgazz/kconfig_case_studies`

[4] `https://chromium.googlesource.com/chromium/src/courgette/+/master/description.md`

software updates (Google Internship 2013).

SuperC I designed and built a framework[2] for configuration-preserving preprocessing and parsing with an implementation for C (PLDI 2012).

GraphicML I designed an intermediate language for data graphics and built a translation tool to generate charts as vector graphics (ETS 2000-2008).

NAEP Questions Tool I was the lead developer and version 2 architect (ETS 2000-2008).

Service and Outreach

Reviewing Activities for Journals

2023 Journal Reviewer, Automated Software Engineering, An International Journal (JASE)

2023 Journal Reviewer, Empirical Software Engineering (EMSE)

2022 Journal Reviewer, Transactions on Software Engineering (TSE)

2021 Journal Reviewer, Journal of Parallel and Distributed Computing

2020 Journal Reviewer, Empirical Software Engineering

2019 Journal Reviewer, Science of Computer Programming

2019 Journal Reviewer, Transactions on Mobile Computing (TMC)

2017 Journal Reviewer, Science of Computer Programming

2016 Journal Reviewer, ACM Transactions on Parallel Computing (TOPC)

Reviewing Activities for Funding Agencies

2023 Panelist, National Science Foundation (NSF)

2023 Panelist, National Science Foundation (NSF)

2021 Panelist, National Science Foundation (NSF)

2020 Panelist, National Science Foundation (NSF)

2019 Panelist, National Science Foundation (NSF)

2017 Proposal Reviewer, Netherlands Organisation for Scientific Research (NWO)

Reviewing Activities for Conferences and Workshops

Program Committees

MODEVAR 2024 Program Committee, Workshop on Languages for Modelling Variability

VaMoS 2024 Program Committee, International Working Conference on Variability Modelling of Software-Intensive Systems

ASE 2023 NIER Program Committee, IEEE/ACM Automated Software Engineering (ASE), New Ideas and Emerging Results

VariVolution 2023 Program Committee, Workshop on Variability and Evolution of Software-Intensive Systems

SecDev 2023 Program Committee, IEEE Secure Development Conference

PLDI 2023 Program Committee, Programming Language Design and Implementation

VaMoS 2023 Program Committee, International Working Conference on Variability Modelling of Software-Intensive Systems

ICSE-TB 2022	Program Committee, International Conference on Software Engineering, Technical Briefings Track
MODEVAR 2022	Program Committee, Workshop on Languages for Modelling Variability
VariVolution 2022	Program Committee, Workshop on Variability and Evolution of Software-Intensive Systems
ISSRE 2022	Program Committee, International Symposium on Software Reliability Engineering
MODEVAR 2021	Program Committee, Workshop on Languages for Modelling Variability
VariVolution 2021	Program Committee, Workshop on Variability and Evolution of Software-Intensive Systems
PLDI 2021	Program Committee, Programming Language Design and Implementation
MODEVAR 2020	Program Committee, Workshop on Languages for Modelling Variability
MODEVAR 2019	Program Committee, Workshop on Languages for Modelling Variability
SPLC-CC 2018	Program Committee, Systems and Software Product Line Conference, Challenge Track

Extended Review Committees

OOPSLA 2023	Extended Review Committee/Artifact Evaluation Committee, Object-Oriented Programming, Systems, Languages & Applications

Artifact Evaluation Committees

OOPSLA 2023	Extended Review Committee/Artifact Evaluation Committee, Object-Oriented Programming, Systems, Languages & Applications
OOPSLA 2018	Artifact Evaluation Committee, Object-Oriented Programming, Systems, Languages & Applications
POPL 2018	Artifact Evaluation Committee, Principles of Programming Languages

Organizing Activities for Conferences

SEED 2021	Virtual Platform Chair, IEEE International Symposium on Secure and Private Execution Environment Design
CCS 2020	Virtual Conference Task Force Chair, ACM Computer and Communications Security
SPLC 2020	Proceedings Chair, Systems and Software Product Line Conference

Campus Service

2023-Now	Cyber Security and Privacy Cluster Student Activities Chair, University of Central Florida
2021-Now	Cyber Security and Privacy Cluster Liason to the Hack@UCF Club, University of Central Florida
2019-Now	Committee Member, Cyber Innovation Lab Committee, University of Central Florida
2022-2023	Committee Co-Chair, Cyber Security and Privacy Faculty Research Cluster Hiring Committee, University of Central Florida

2022 Committee Member, Computer Science Department Chair Search Committee, University of Central Florida

2021 Committee Member, Computer Science Department Hiring Committee, University of Central Florida

2021-2022 Committee Member, Cyber Security and Privacy Research Cluster Hiring Committee, University of Central Florida

2020-2021 Mentor, NSF CAREER Mentoring Program, University of Central Florida

2019-2020 Committee Member, Cyber Security and Privacy Research Cluster Hiring Committee, University of Central Florida

2019-2020 Technical Advisor, Hack@UCF, University of Central Florida

2018-2020 Organizer, APPLeSEEd Lab Undergraduate Research Interest Meetings, University of Central Florida

2019 Faculty Representative, National Merit Scholar Reception, University of Central Florida

Community Outreach

2023-Now Coordinator, Camp Connect, University of Central Florida

2022 Faculty Mentor, Computing Alliance of Hispanic-Serving Institutions (CAHSI) Research Experience for Undergraduates (REU)

2021 Guest Speaker, Summer Camp (by Arup Guha), University of Central Florida

2021 Co-Coordinator (with Charlie Hughes), Camp Connect, University of Central Florida

2019 "What Is Inside My Computer?" with students Julian Braha, Kai Garcia, Jacob Thomas, and Connor Westcott, STEM Day, University of Central Florida

2019 Burnett Honors College Research Match Day, University of Central Florida

2019 Coordinator for the Computer Science Department, STEM Day, University of Central Florida

2019 Computer Science Sessions, Camp Connect II, University of Central Florida

2019 Computer Science Sessions, Camp Connect I, University of Central Florida

Service As a Student

2017 Panel Member, MSCS & MSIS Alumni Q&A Panel, New York Unversity

2015 Panel Member, MSCS & MSIS Alumni Q&A Panel, New York Unversity

2013 PhD Student Representative, Computer Science Department, New York University

2009-2012 Teacher, cSplash one-day festival of Math and CS, New York University

2009-2010 Volunteer, Women in Computing's High School Girls' CS/Engineering Colloquium

2010 President, NYU Master's Association of Computer Science

2009 Treasurer, NYU Master's Association of Computer Science

2009 Department Representative, NYU Graduate School Open House

Professional Memberships

2022-Now IEEE Computer Society Member

2009-Now Association for Computing Machinery Professional Member