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RESEARCH INTERESTS

Strategic Reasoning, Autonomic Computing, Computing Education

EDUCATION

Ph.D. Computer Science, Nova Southeastern University, 2013.

Dissertation: Code Clone Discovery Based on Concolic Analysis

M.S. Software Design & Management, Rochester Institute of Technology, 2007.

B.S. Computer Science & History (Military History Specialization), St. John Fisher College, 2004.

EMPLOYMENT

- Assistant Professor, Department of Software Engineering, RIT 2017–Present
- Lecturer, Department of Software Engineering, RIT 2010–2017

APPOINTMENTS

Research Fellow, US Air Force Office of Scientific Research (AFRL/RI), 2018

RESEARCH GRANTS

Total: \$ 4.5M+ [PI: \$2.5M+; Co-PI: \$1.7M+; Sr. Person: \$300k in federal funding]

- G1: NSF, “CPS: Small: Informed Contextual Bandits to Support Decision-Making for Intelligent CPS”, \$499,899 (PI: **Daniel Krutz**; Co-PI: Travis Desell, Alex Ororbia; 9/22 - 9/25).
- G2: NSA, “GenCyber @ RIT: Secure Computing”, \$75,325 (PI: **Daniel Krutz**; Co-PI: Bruce Herring, Robert St. Jacques; 7/22 - 7/24).
- G3: NSF, “CAREER: Investigating the Use of Empathy-Building Interventions in Experiential Computing Education”, \$588,426 (PI: **Daniel Krutz**; Co-PI: None; 10/22 - 9/27).
- G4: NSA, “GenCyber @ RIT: Secure Computing”, \$71,160 (PI: **Daniel Krutz**; Co-PI: Robert St Jacques, Bruce Herring; 8/21 - 8/22).
- G5: NSF, “Intervention-Based Experiential Education Labs”, \$749,926 (\$671,070 RIT + \$78,856 Bethune-Cookman University) (PI: **Daniel Krutz**; Co-PI: Samuel Malachowsky; 9/21 - 9/24).
- G6: NSA, “GenCyber @ RIT: Secure Computing”, \$60,184 (PI: **Daniel Krutz**; Co-PI: Stacey Watson, Sumita Mishra; 4/20 - 3/22).
- G7: NSA, “GenCyber @ RIT: Secure Computing”, \$106,023 (PI: **Daniel Krutz**; Co-PI: Stacey Watson, Jayalaxmi Charavarthy, Robert St. Jacques; 4/19 - 4/20).

- G8: AFRL, “Uncertainty Reduction in Self-Adaptive Systems to Increase System Effectiveness, Efficiency and Resiliency”, “Extension Grant” (PI: **Daniel Krutz**; 4/19 - 12/19).
- G9: ONR, “A Multimodal Dynamic Bayesian Learning Framework for Complex Decision-making”, \$1,586,800 (PI: Qi Yu; Co-PI: **Daniel Krutz**; 10/18 - 9/22).
- G10: NSF, “Developing Experiential Laboratories for Computing Accessibility Education”, \$299,994 (PI: **Daniel Krutz**; Co-PI: Samuel Malachowsky, Paul Tymann, Yasmine El-Glaly; 9/18 - 8/21).
- G11: NSF, “Collaborative Research: Interactive Video-Enhanced Tutorials on Problem Solving in Physics”, \$290,105 (PI: Robert Teese; Co-PI: Michelle Chabot; Sr. Person **Daniel Krutz**; 9/18 - 8/21).
- G12: NSA, “GenCyber @ RIT: Secure Web and Mobile Computing”, \$130,908 (PI: Rajendra Raj; Co-PI: **Daniel Krutz**; 5/18 - 4/19).
- G13: RIT, “Making Self-Adaptive Systems More Resilient By Reducing Decision-Making Uncertainty”, \$5,000 (PI: **Daniel Krutz**; Co-PI: None; 5/18 - 9/18).
- G14: SIGSCE, “Inclusive Apps: Supporting Mobile Accessibility Standards Through Educational Exercises”, \$3,800 (PI: **Daniel Krutz**; Co-PI: Yasmine El-Glaly; 1/17 - 12/17).
- G15: RIT, “FEED Development”, \$3,150 (PI: **Daniel Krutz**; Co-PI: None; 1/17 - 12/17).
- G16: RIT, “PLASMA: A Set of Educational Mobile Security Modules”, \$1,800 (PI: **Daniel Krutz**; Co-PI: None; 1/16 - 12/16).
- G17: RIT, “FEED Development”, \$3,150 (PI: **Daniel Krutz**; Co-PI: None; 1/16 - 12/16).
- G18: SIGSCE, “Supporting Education Using a Public Oracle of Vulnerable Mobile Apps”, \$2,400 (PI: **Daniel Krutz**; Co-PI: None; 1/16 - 12/16).
- G19: RIT, “Investigating Android M Permissions: Adoption, Ratings, and Malware”, \$1,800 (PI: **Daniel Krutz**; Co-PI: None; 1/15 - 12/15).
- G20: RIT, “Enhancing Software Engineering Education for Deaf/HoH Students”, \$525 (PI: **Daniel Krutz**; Co-PI: None; 1/15 - 12/15).

GIFTS

- G21: Visions Global Empowerment, “Women in Computing Hackathon”, \$2,750 (PI: **Daniel Krutz**; Co-PI: None; 11/20).

HONORS

- H1: NSF CAREER Award (2022)
- H2: ICWS: 2021, Using Algorithm Selection for Self-Adaptive Service Oriented Systems - Best Paper Award
- H3: GECCO: 2020, Improving Neuroevolutionary Transfer Learning of Deep Recurrent Neural Networks through Network-Aware Adaptation - Best paper nominee
- H4: ICSE-SEET: 2020, Presenting and Evaluating the Impact of Experiential Learning in Computing Accessibility Education - Distinguished Paper Award

PUBLICATIONS

- [1] LIU, Yang ; MOSES, Heather ; STERNEFELD, Mark ; MALACHOWSKY, Samuel ; KRUTZ, Daniel E.: Do Users Act Equitably? Understanding User Bias Through a Large In-Person Study. In: *Proceedings of the ACM/IEEE 42nd International Conference on Software Engineering: Software Engineering in Society (SEIS)*. New York, NY, USA : Association for Computing Machinery, 2023 (ICSE-SEIS '23)
- [2] DESHPANDE, Niranjana ; SHARMA, Naveen ; YU, Qi ; KRUTZ, Daniel E.: Online Learning Using Incomplete Execution Data for Self-Adaptive Service-Oriented Systems. In: *2022 IEEE International Conference on Web Services (ICWS)*, 2022, S. 296–301

- [3] HAQ, Aizaz U. ; DESHPANDE, Niranjana ; ELSAID, AbdelRahman ; DESELL, Travis ; KRUTZ, Daniel E.: Addressing Tactic Volatility in Self-Adaptive Systems Using Evolved Recurrent Neural Networks and Uncertainty Reduction Tactics. In: *Proceedings of the Genetic and Evolutionary Computation Conference*. New York, NY, USA : Association for Computing Machinery, 2022 (GECCO '22). – ISBN 9781450392372, 12991307
- [4] ZHU, Yuansheng ; SHI, Weishi ; PANDEY, Deep S. ; LIU, Yang ; QUE, Xiaofan ; KRUTZ, Daniel E. ; YU, Qi: Uncertainty-Aware Multiple Instance Learning from Large-Scale Long Time Series Data. In: *2021 IEEE International Conference on Big Data (Big Data)*, 2021, S. 1772–1778
- [5] DESHPANDE, Niranjana ; SHARMA, Naveen ; YU, Qi ; KRUTZ, Daniel. E.: R-CASS: Using Algorithm Selection for Self-Adaptive Service Oriented Systems. In: *2021 IEEE International Conference on Web Services (ICWS)*. Los Alamitos, CA, USA : IEEE Computer Society, sep 2021, 61-72. – Best Paper Award
- [6] ELSAID, AbdelRahman ; KARNS, Joshua ; LYU, Zimeng ; KRUTZ, Daniel ; ORORBIA, Alexander ; DESELL, Travis: Improving Neuroevolutionary Transfer Learning of Deep Recurrent Neural Networks through Network-Aware Adaptation. In: *Proceedings of the 2020 Genetic and Evolutionary Computation Conference*. New York, NY, USA : Association for Computing Machinery, 2020 (GECCO '20). – ISBN 9781450371285, 315323. – Best paper nominee
- [7] ELSAID, AbdelRahman ; KARNS, Joshua ; II, Alexander O. ; KRUTZ, Daniel ; LYU, Zimeng ; DESELL, Travis: *Neuroevolutionary Transfer Learning of Deep Recurrent Neural Networks through Network-Aware Adaptation*. 2020
- [8] SHI, Weishi ; MALACHOWSKY, Samuel ; EL-GLALY, Yasmine ; YU, Qi ; KRUTZ, Daniel E.: Presenting and Evaluating the Impact of Experiential Learning in Computing Accessibility Education. In: *Proceedings of the ACM/IEEE 42nd International Conference on Software Engineering: Software Engineering Education and Training*. New York, NY, USA : Association for Computing Machinery, 2020 (ICSE-SEET '20). – ISBN 9781450371247, 4960. – Distinguished Paper Award
- [9] SHI, Weishi ; KHAN, Saad ; EL-GLALY, Yasmine ; MALACHOWSKY, Samuel ; YU, Qi ; KRUTZ, Daniel E.: Experiential Learning in Computing Accessibility Education. In: *Proceedings of the ACM/IEEE 42nd International Conference on Software Engineering: Companion Proceedings*. New York, NY, USA : Association for Computing Machinery, 2020 (ICSE '20). – ISBN 9781450371223, 250251
- [10] ELSAID, AbdelRahman ; KARNAS, Joshua ; LYU, Zimeng ; KRUTZ, Daniel ; ORORBIA, Alexander G. ; DESELL, Travis: Neuro-Evolutionary Transfer Learning Through Structural Adaptation. In: *International Conference on the Applications of Evolutionary Computation (Part of EvoStar)* Springer, 2020, S. 610–625
- [11] PALMERINO, J. ; YU, Q. ; DESELL, T. ; KRUTZ, D.: Improving the Decision-Making Process of Self-Adaptive Systems by Accounting for Tactic Volatility. In: *2019 34th IEEE/ACM International Conference on Automated Software Engineering (ASE)*, 2019. – ISSN 1938–4300, S. 949–961
- [12] SCOCCIA, Gian L. ; PERUMA, Anthony ; PUJOLS, Virginia ; MALAVOLTA, Ivano ; KRUTZ, Daniel E.: Permission Issues in Open-Source Android Apps: An Exploratory Study. In: *2019 19th International Working Conference on Source Code Analysis and Manipulation (SCAM)* IEEE, S. 238–249
- [13] ELSAID, A. ; DESELL, T. ; KRUTZ, D.: Is Adaptivity a Core Property of Intelligent Systems? It Depends. In: *2019 IEEE/ACM 14th International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS)*, 2019
- [14] SCOCCIA, Gian L. ; PERUMA, Anthony ; PUJOLS, Virginia ; CHRISTIANS, Ben ; KRUTZ, Daniel E.: An Empirical History of Permission Requests and Mistakes in Open Source Android Apps. In: *Proceedings of the 16th International Conference on Mining Software Repositories*, 2019 (MSR '19)

- [15] PERUMA, Anthony ; KRUTZ, Daniel: Security: a critical quality attribute in self-adaptive systems. In: *2018 IEEE/ACM 13th International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS)* IEEE, 2018
- [16] PERUMA, Anthony ; PALMERINO, Jeffrey ; KRUTZ, Daniel E.: Investigating user perception and comprehension of android permission models. In: *Proceedings of the 5th International Conference on Mobile Software Engineering and Systems* ACM, 2018, S. 56–66
- [17] PERUMA, Anthony ; KRUTZ, Daniel E.: Understanding the Relationship Between Quality and Security: A Large-Scale Analysis of Android Applications. In: *International Workshop on Security Awareness from Design to Deployment*. New York, NY, USA : ACM, 2018 (SEAD 2018)
- [18] PERUMA, Anthony ; MALACHOWSKY, Samuel A. ; KRUTZ, Daniel E.: Providing an Experiential Cybersecurity Learning Experience Through Mobile Security Labs. In: *International Workshop on Security Awareness from Design to Deployment*. New York, NY, USA : ACM, 2018 (SEAD 2018)
- [19] EL-GLALY, Yasmine N. ; PERUMA, Anthony ; KRUTZ, Daniel E. ; HAWKER, J. S.: Apps for Everyone: Mobile Accessibility Learning Modules. In: *ACM Inroads* 9 (2018), April, Nr. 2, 30–33. <http://dx.doi.org/10.1145/3182184>. – DOI 10.1145/3182184. – ISSN 2153–2184
- [20] KRUTZ, Daniel E. ; RICHARDS, Thomas: Cyber Security Education: Why Don't We Do Anything About It? In: *ACM Inroads* 8 (2017), Oktober, Nr. 4, 5–5. <http://dx.doi.org/10.1145/3132217>. – DOI 10.1145/3132217. – ISSN 2153–2184
- [21] KRUTZ, Daniel E. ; MUNAIAH, Nuthan ; PERUMA, Anthony ; MKAOUER, Mohamed W.: Who Added That Permission to My App?: An Analysis of Developer Permission Changes in Open Source Android Apps. In: *Proceedings of the 4th International Conference on Mobile Software Engineering and Systems*. Piscataway, NJ, USA : IEEE Press, 2017 (MOBILESoft '17). – ISBN 978–1–5386–2669–6, 165–169
- [22] MCAFEE, Patrick ; MKAOUER, Mohamed W. ; KRUTZ, Daniel E.: CATE: Concolic Android Testing Using Java Pathfinder for Android Applications. In: *Proceedings of the 4th International Conference on Mobile Software Engineering and Systems*. Piscataway, NJ, USA : IEEE Press, 2017 (MOBILESoft '17). – ISBN 978–1–5386–2669–6, 213–214
- [23] CHESTER, Piper ; JONES, Chris ; MKAOUER, Mohamed W. ; KRUTZ, Daniel E.: M-perm: A Lightweight Detector for Android Permission Gaps. In: *Proceedings of the 4th International Conference on Mobile Software Engineering and Systems*. Piscataway, NJ, USA : IEEE Press, 2017 (MOBILESoft '17). – ISBN 978–1–5386–2669–6, 217–218
- [24] DENNIS, Colton ; KRUTZ, Daniel E. ; MKAOUER, Mohamed W.: P-lint: A Permission Smell Detector for Android Applications. In: *Proceedings of the 4th International Conference on Mobile Software Engineering and Systems*. Piscataway, NJ, USA : IEEE Press, 2017 (MOBILESoft '17). – ISBN 978–1–5386–2669–6, 219–220
- [25] KRUTZ, Daniel E. ; MALACHOWSKY, Samuel A.: Teaching android security through examples: a publicly available database of vulnerable apps. In: *ACM Inroads* 7 (2016), Nr. 4, S. 96–98
- [26] Conference Organization. In: *2016 International Conference on Cloud and Autonomic Computing (ICCAAC)*, 2016, S. ix–xi
- [27] KRUTZ, Daniel E. ; MUNAIAH, Nuthan ; MENEELY, Andrew ; MALACHOWSKY, Samuel A.: Examining the Relationship Between Security Metrics and User Ratings of Mobile Apps: A Case Study. In: *Proceedings of the International Workshop on App Market Analytics*. New York, NY, USA : ACM, 2016 (WAMA 2016). – ISBN 978–1–4503–4398–5, 8–14

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- [29] MUNAIAH, Nuthan ; KLIMKOWSKY, Casey ; MCRAE, Shannon ; BLAINE, Adam ; MALACHOWSKY, Samuel A. ; PEREZ, Cesar ; KRUTZ, Daniel E.: Darwin: a static analysis dataset of malicious and benign Android apps. In: *Proceedings of the International Workshop on App Market Analytics* ACM, 2016, S. 26-29
- [30] MALACHOWSKY, S. A. ; KRUTZ, D. E.: A project component in a web engineering course. In: *2015 IEEE Frontiers in Education Conference (FIE)*, 2015, S. 1-6
- [31] KRUTZ, D. E. ; MENEELY, A. ; MALACHOWSKY, S. A.: An insider threat activity in a software security course. In: *2015 IEEE Frontiers in Education Conference (FIE)*, 2015, S. 1-6
- [32] KRUTZ, Daniel E. ; MIRAKHORLI, Mehdi ; MALACHOWSKY, Samuel A. ; RUIZ, Andres ; PETERSON, Jacob ; FILIPSKI, Andrew ; SMITH, Jared: A dataset of open-source Android applications. In: *Mining Software Repositories (MSR), 2015 IEEE/ACM 12th Working Conference on Mining Software Repositories* IEEE, 2015, S. 522-525
- [33] KRUTZ, Daniel E. ; MALACHOWSKY, Samuel A. ; SHIHAB, Emad: Examining the effectiveness of using concolic analysis to detect code clones. In: *Proceedings of the 30th Annual ACM Symposium on Applied Computing* ACM, 2015, S. 1610-1615
- [34] KRUTZ, D. E. ; MALACHOWSKY, S. A. ; JONES, S. D. ; KAPLAN, J. A.: Enhancing the educational experience for deaf and hard of hearing students in software engineering. In: *2015 IEEE Frontiers in Education Conference (FIE)*, 2015, S. 1-9
- [35] KRUTZ, Daniel E. ; LE, Wei: A code clone oracle. In: *Proceedings of the 11th Working Conference on Mining Software Repositories* ACM, 2014, S. 388-391
- [36] KRUTZ, Daniel E. ; MALACHOWSKY, Samuel A. ; REICHLMAYR, Thomas: Using a Real World Project in a Software Testing Course. In: *Proceedings of the 45th ACM Technical Symposium on Computer Science Education*. New York, NY, USA : ACM, 2014 (SIGCSE '14). – ISBN 978-1-4503-2605-6, 49-54
- [37] KRUTZ, Daniel E. ; SHIHAB, Emad: CCCD: Concolic code clone detection. In: *Reverse Engineering (WCRE), 2013 20th Working Conference on IEEE*, 2013, S. 489-490
- [38] KRUTZ, D. E. ; MENEELY, A.: Teaching Web Engineering using a project component. In: *2013 IEEE Frontiers in Education Conference (FIE)*, 2013. – ISSN 0190-5848, S. 1366-1368
- [39] KRUTZ, D. E. ; VALLINO, J. R.: Experiencing disruptive behavior in a team using moles. In: *2013 IEEE Frontiers in Education Conference (FIE)*, 2013. – ISSN 0190-5848, S. 1492-1495
- [40] KRUTZ, D. E. ; LUTZ, M.: Bug of the Day: Reinforcing the importance of testing. In: *2013 IEEE Frontiers in Education Conference (FIE)*, 2013. – ISSN 0190-5848, S. 1795-1799
- [41] KRUTZ, Daniel E.: *Code Clone Discovery Based on Concolic Analysis*, Diss., 2013. – 139 S.
- [42] LUTZ, M. J. ; VALLINO, J. R. ; MARTNEZ, K. ; KRUTZ, D. E.: Instilling a software engineering mindset through freshman Seminar. In: *2012 Frontiers in Education Conference Proceedings*, 2012. – ISSN 0190-5848, S. 1-6

WORKSHOPS, TUTORIALS AND OTHER PRESENTATIONS

- P1: *Tutorial*, “The Accessible Learning Labs: Supporting Accessibility Education” (ASE) Ann Arbor, Michigan, United States - October, 2022
- P2: *Tutorial*, “ALL: Accessibility Learning Labs for Computing Accessibility Education” (ITISCE) Remote, (COVID), - July, 2021
- P3: *Tutorial*, “Supporting Computing Accessibility Education Using Experiential Learning Labs” (CC-SCNE) Remote, (COVID), - April, 2021
- P4: *Tutorial*, “Using Experiential Learning to Support Accessibility in Computing Education” (CSEE&T) Remote, (COVID), - October, 2020
- P5: *Tutorial*, “Creating Accessible Software Using Experiential Learning Labs” (ASE) Remote, (COVID), - September, 2020
- P6: *Panel*, “What and How to Teach Accessibility” (SIGSCE) Remote, (COVID), - June, 2020
- P7: *Presentation*, “Accessibility Learning Labs” (CCSCNE) New Haven, Connecticut, USA - April, 2019
- P8: *Invited Talk*, “Mobile Security Education” (n/a) Technische Universität Berlin, Berlin, Germany - July, 2017
- P9: *Presentation*, “PLASMA: Educational Mobile Security Labs” (SEED Workshop) Syracuse, New York, USA - June, 2017
- P10: *Presentation*, “Experiential Cybersecurity Educational Labs” (NYCWIC) Rochester, New York, USA - April, 2017

EXTERNAL SERVICE

Advisory Boards

- S1: U.S. Department of Defense: Algorithmic Warfare Cross Functional Team (AWCFT) Academic Innovation Council (Project Maven). 2019 - present

Grant Reviewer

- S2: National Science Foundation (NSF) panelist: 2019, 2020, 2021, 2022
- S3: Maryland Industrial Partnerships Program (MIPS): 2020

Program Committees

- S4: Association for Computing Machinery’s Special Interest Group on Computer Science Education (SIGSCE). 2023 - Present
- S5: International Conference on Model Driven Engineering Languages and Systems -SRC (MODELS). 2021 - Present
- S6: International Symposium on Cluster, Cloud and Internet Computing (CCGrid). 2019 - Present
- S7: Consortium for Computing Sciences in Colleges (CCSCNE). 2019 - Present
- S8: Innovation & Technology in Computer Science Education (ITiCSE). 2018 - Present

Conference Organizing Committees

- S9: International Conference on Cloud and Autonomic Computing (ICCAC). Poster Chair. 2017
- S10: International Conference on Cloud and Autonomic Computing (ICCAC). Web Chair. 2016

Publication Reviewer

- S11: ACM Inroads
- S12: Empirical Software Engineering (EMSE)
- S13: IEEE Access
- S14: Journal of Systems and Software (JSS)

- S15: IEEE Software
- S16: Journal of Network and Computer Applications (JNCA)
- S17: Special Interest Group on Computer Science Education (SIGCSE)
- S18: Computers & Security
- S19: Journal of Visual Language & Computing
- S20: International Conference on University Learning and Teaching (InCULT)
- S21: Frontiers in Education (FIE)
- S22: American Society for Engineering Education (ASEE)

UNIVERSITY SERVICE

- S23: Software Engineering Graduate Curriculum Committee: 2021-present
- S24: ESL GCI Seed Proposal Reviewer: 2020-Present
- S25: College Academic Senate: 2019-2022
- S26: University Council: 2019-2021
- S27: GCCIS College Governance Committee (Chair 2017-2022): 2016-2022
- S28: University Nominations Committee: 2020-2022
- S29: Coordinator for concurrent sections of Introduction to Software Engineering course (12-15 sections with 240-300 students): 2010-2016
- S30: Software Engineering Undergraduate Curriculum Committee: 2012-2016
- S31: Software Engineering honors advocate: 2015-2017

PhD Students

- St1: Advisor: Sheeraja Rajakrishnan: *TBD* - Graduation: TBD
- St2: Advisor: Yang Lui: *TBD* - Graduation: TBD
- St3: Committee Member: Benjamin Meyers: *Helping Software Developers Confront and Organize Their Mistakes with Human Error Informed Micro Post-Mortems* - Graduation: TBD
- St4: Committee Member: AbdelRahman A. ElSaid: *Nature Inspired Topology Optimization Of Recurrent Neural Networks* - Graduation: 2021

SUPERVISED MASTERS THESES

- St5: Aizaz UL Haq – MS 12/21 “Evaluation of Neuro-Evolution Algorithms for Tactic Volatility Aware Processes” *MIT*
- St6: Saad Khan – MS 7/21 “Pedagogical Evaluation of Cognitive Accessibility Learning Lab in the Classroom” *MIT*
- St7: Jan Guillermo – MS 7/19 “Accessibility Lab: Audio Cues” *MIT*
- St8: Jeff Palmerino – MS 5/19 “TVA: A Requirements Driven, Machine-Learning Approach for Addressing Tactic Volatility in Self-Adaptive Systems” *MIT*
- St9: Saleh Rebaz – MS 11/17 “Mining User Reviews To Extract Features For Initial Release Of Mobile Apps” *MIT*
- St10: Jhaveri Sweta – MS 8/17 “An Empirical Analysis of Privacy Leaks in Android Apps” *MIT*
- St11: Tilekar Rohan – MS 8/17 “Extraction and Quality Analysis of Third Party Libraries in Android” *MIT*

COURSES TAUGHT

- C1: Research Methods (Graduate)
- C2: Web Engineering (Undergraduate) - *Developed new course*

- C3: Engineering of Secure Software (Undergraduate)
- C4: Foundations of Software Engineering (Graduate)
- C5: Introduction to Software Engineering (Undergraduate)
- C6: Software Testing (Undergraduate)
- C7: Freshman Seminar (Undergraduate)
- C8: Senior Project Coaching (Undergraduate)
- C9: Engineering of Enterprise Software Systems (Undergraduate)

INDUSTRY EXPERIENCE

- Technology Consultant, Mindex Technologies 8/2009 – 8/2010.
- Sr. Software Engineer, 5Linx Enterprises, 2/2009–8/2009.
- R&D Software Developer, Xerox Corporation 5/2004–1/2009.

PROFESSIONAL ASSOCIATIONS

- Association for Computing Machinery (ACM)
- Institute of Electrical and Electronics Engineers (IEEE)
- Access Computing

REFERENCES

Available upon request

Last updated: January 13, 2023