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Biographical Information

EDUCATIONAL BACKGROUND

Ph.D. Computer Science, Florida State University (FSU), December 2012

M.S. Computer Science, Florida State University (FSU), August 2008

B.S. magna cum laude, Computer Science, University of Northern Iowa (UNI), December 2004

ACADEMIC POSITIONS

Associate Professor, Department of Computer Science, UNI, July 2020-current

Assistant Professor, Department of Computer Science, UNI, July 2013-June 2020

Postdoctoral Researcher, Department of Computer Science, FSU, 2013

Lead Lecturer, Department of Computer Science, FSU, 2008, 2011, 2013

Assistant Lecturer, Department of Computer Science, FSU, 2012

Research Assistant, Department of Computer Science, FSU, 2005-2012

Teaching Assistant, Department of Computer Science, FSU, 2007, 2010

Undergraduate Research Assistant, Department of Computer Science, UNI, 2003-2004

OTHER PROFESSIONAL POSITIONS

Information Security Auditor, Independent Consultant, 2008

Part-time Web Developer, Dyton Creative, 2002-2003

External Grants

2023-2025 J Ben Schafer (PI), **Sarah Diesburg** (Senior Personnel), Marcy Seavey (Senior Personnel), Michelle Meier (Senior Personnel), Corey Rogers (Senior Personnel). Collaborative Research: Growing Computer Science Teachers in Iowa through AEA Partnerships. Funded March 2023 - March 2025 by the **National Science Foundation** in response to the program solicitation 20-539. \$1,000,000 for two years.

2018-2020 J Ben Schafer (PI), J Philip East (Co-PI), **Sarah Diesburg** (Senior Personnel) Dana Atwood-Blaine (Senior Personnel). The Development of a Statewide Network for Teacher Preparation in Computer Science: The University of Northern Iowa Partnership for CS Teacher Preparation (Grant). Funded March 15, 2018-March 15, 2020 by the **National Science Foundation** in response to the call for CS for All: Research Practitioner Partnership (RPP). \$300,000 for two years.

Internal Research Grants (UNI)

2016-2017 UNI Center for Educational Transformation Research Fellowship, 2016-2017. Title: Motion virtual manipulatives in the elementary math classroom. Co-PIs: **Sarah Diesburg** and Adam Feldhaus. Award start: April 2016. (\$41,910)

- 2016 Summer Undergraduate Research Program Award (2), UNI CHAS, May 23—July 29 2016. (\$6,000)
- 2015-2016 UNI Center for Educational Transformation Research Fellowship, 2015-2016. Title: Motion virtual manipulatives in the elementary math classroom. Co-PIs: **Sarah Diesburg** and Adam Feldhaus. Award start: April 2015. (\$26,000)
- 2015 Summer Undergraduate Research Program Award, UNI CHAS, May 26—July 31 2015. (\$3,000)
- 2014-15 Capacity Building Grant Competition Project Award. Title: Motion virtual manipulatives in the elementary math classroom. Co-PIs: **Sarah Diesburg** and Adam Feldhaus. Award start: January 2015. (\$15,000)
- 2014 Office of the Executive Vice-President & Provost Pre-Tenure Summer Fellowship Award, University of Northern Iowa, June 2014. 66% acceptance rate. (\$4,500)
- Summer Undergraduate Research Program Award, UNI CHAS, May 27—Aug 1 2014. (\$3,000)

Invited Book Chapters

- 2022 **Diesburg, S.** (2023). Confidential Data Storage. In: Jajodia, S., Samarati, P., Yung, M. (eds) *Encyclopedia of Cryptography, Security and Privacy*. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-27739-9_1561-1
- 2018 **Diesburg S.** Networks and Distributed Systems. In Galvin PB, Gagne G, & Silberschatz A. *Operating Systems Concepts (10th Ed.)*. John Wiley & Sons, p. 733-770, February 2018.

Peer-Reviewed Publications

Note: In Computer Science, proceedings in conferences (and some workshops) are full paper submissions and are considered as prestigious as journal publications. ACM, IEEE, and USENIX are considered highest-quality publishers for my field.

- 2021 Purvis B., Jaisinghani D., **Diesburg S.**, Rashid H. BubbleNet: Towards developing an IoT-based Physically Distant Classroom for Personal Bubbles [Short Paper]. *In proceedings of the 41st IEEE International Conference on Distributed Computing Systems*, July 2021 (4 pages, average acceptance rate ~20%)
- 2020 Wang, W., Meyers, C., Roy, R., **Diesburg, S.** and Wang, A.-I.A. 2021. ADAPT: An auxiliary storage data path toolkit. *Journal of Systems Architecture*. 113, (2021), 101902. (13 pages, impact factor 2.55)
- Roy R, Dennis E, Wang AIA, Reiher P, **Diesburg S.** An Exploration of Targeted Provenance for Reliability. In proceedings of *The 35th ACM/SIGAPP Symposium on Applied Computing (SAC 2020)*, March 2020 (7 pages, <25% acceptance rate).
- 2018 **Diesburg S**, Feldhaus CA, Oswald C, Boudreau C, Brown, B. Evaluating elementary student interaction with ubiquitous touch projection technology. In Proceedings of the *17th SIGCHI ACM Conference on Interaction Design and Children (IDC '18)*, June 2018 (8 pages, 29% acceptance rate).
- 2017 **Diesburg S**, Fienup M. Using GPUs to Forensically Recover Non-Addressable Data on Hardware-FTL-Backed NAND Storage [Short Paper]. *The 23rd International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA '17)*, July 2017 (4 pages, 28% acceptance rate).

- 2016 **Diesburg S**, Feldhaus CA, Al Fardan, M, Schlicht J, Ploof N. Is Your Data Gone? Measuring User Perceptions of Deletion. *The 6th International Workshop on Socio-Technical Aspects of Security and Trust (STAST '16)*, December 2016 (12 pages 45% acceptance rate). Supersedes *arXiv:1512.08986 [cs]*.
- Diesburg S**, Meyers C, Stanovich M, Wang AIA, Kuenning G. TrueErase: Leveraging an Auxiliary Data Path for Per-file Secure Deletion. *ACM Transactions on Storage* 12, 4 (May 2016), 18:1-18:37. DOI:<https://doi.org/10.1145/2854882> (38 pages). Impact Factor 1.6.
- 2012 **Diesburg S**, Meyers C, Stanovich M, Mitchell M, Marshall J, Gould J, Wang AIA, Kuenning G. TrueErase: Per-File Secure Deletion for the Storage Data Path. *Proceedings of the 2012 ACM Annual Computer Security Applications Conference (ACSAC)*, 2012 (10 pages, 19% acceptance rate). Supersedes Technical Report TR-111020, Department of Computer Science, FSU, 2011.
- 2010 **Diesburg S**, Wang AIA. A Survey of Confidential Data Storage and Deletion Methods. *ACM Computing Surveys*, 43(1): Article 2, 2010, (37 pages). Impact Factor 8.0.
- 2008 **Diesburg S**, Meyers C, Lary D, Wang AIA. When Cryptography Meets Storage. *Proceedings of the 4th ACM International Workshop on Storage Security and Survivability*, 2008 (10 pages, 62% acceptance rate).
- 2005 **Diesburg S**, Gray P, Joiner D. High Performance Computing Environments without the Fuss: The Bootable Cluster CD. *Proceedings of the 19th IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, 252.1, April 2005 (8 pages, 33.5% acceptance rate).
- 2004 Gray P, **Miller (Diesburg) S**. In Search of Clusters for High Performance Computing Education. *Proceedings of the Linux Clusters Institute Conference*, 2004.
- Gray P, **Miller (Diesburg) S**. The Bootable Cluster CD for High Performance Computing Education. *Proceedings of the Midwest Instruction and Computing Symposium*, 2004.

Non-Peer-Reviewed Publications (Technical Reports, Thesis, Dissertation, etc.)

- 2019 Roy R, Dennis E, Wang AIA, Reiher P, **Diesburg S**. An Exploration of Targeted Provenance for Reliability. July 2019.
- 2017 Wang W, Meyers C, Wang AIA, **Diesburg S**. Tags: A Unifying Primitive for the Storage Data Path. Technical Report TR-170929, Florida State University, 2017.
- 2016 **Diesburg S**. Ghosts of Deletions Past: New Secure Deletion Challenges and Solutions. *arXiv:1611.04216 [cs]*. (Nov. 2016).
- 2015 **Diesburg, S.** and Feldhaus, C. A. Is Your Data Gone? Comparing Perceived Effectiveness of Thumb Drive Deletion Methods to Actual Effectiveness. *arXiv:1512.08986 [cs]*. (Dec. 2015).
- 2012 **Diesburg S**. Per-File, Full-Data-Path Secure Deletion for Electronic Storage. Ph.D. Dissertation at Florida State University, October 2012, 133 pages.
- 2011 **Diesburg S.**, Meyers C., Stanovich M., Mitchell M., Marshall J., Gould J., Wang A. A. and Kuenning G. TrueErase: Full-storage-data-path Per-file Secure Deletion (Technical Report TR-111020). Department of Computer Science: Florida State University.
- 2009 **Diesburg, S.**, Meyers, C., & Wang, AIA. Full-datapath Secure Deletion (Work-in-progress Report). On-line *Proceedings of the 18th USENIX Security Symposium*.

- 2004 **Diesburg S.** Monitoring Network Sludge: Using Intrusion Detection to Monitor Network Traffic. Senior Thesis, University of Northern Iowa, 2004.

Peer-Reviewed Presentations

- 2018 Feldhaus CA, **Diesburg S.** Motion Virtual Manipulatives: A Study with 3rd Graders. Presentation Presented at the Midwest Mathematical Meeting of the Minds (M4), Omaha, NE, February 2018.
- 2016 Feldhaus CA, **Diesburg S.** Motion Virtual Manipulatives and Elementary School Mathematics. Presentation at *The Rural Education National Forum*, Columbus, Ohio, October 2016 (37% acceptance rate).
- Feldhaus CA, **Diesburg S.** Using Motion Virtual Manipulatives to Teach Elementary School Mathematics. Presentation at *The Twentieth Annual Conference of the Association of Mathematics Teacher Educators*, January 2016 (50% acceptance rate).

Invited Presentations

- 2019 Schafer B. and **Diesburg S.** Using Panopto to record lectures, UNI Technology-Enhanced Teaching and Learning Conference, May 2019.
- 2018 Schafer B. and **Diesburg S.** The University of Northern Iowa Partnership for CS Teacher Preparation, UNI Board of Regents, November 2018.
- 2016 **Diesburg S.** Ghosts of Deletions Past: New Research and Challenges in Securely Deleting Your Data, keynote presentation, *49th Annual Midwest Instruction and Computing Symposium (MICS)*, April 2016.
- Feldhaus CA, **Diesburg S.** Motion Virtual Manipulatives and Elementary School Mathematics. Presentation at *The Iowa Association of Mathematics Teacher Educators Conference*, March 2016.
- Feldhaus CA, **Diesburg S.** Using motion virtual manipulatives to teach elementary school mathematics. Paper presented at the *Association of Mathematics Teacher Educators National Conference*: Irvine, CA, January 2016.
- 2015 **Diesburg S.** Challenges and New Research in Secure Deletion of Files, UNI Department of Biology Lecture Series, November 2015.
- 2014 **Diesburg S.** Ghosts of Past Data: Challenges and Advances in Secure Deletion of Files, UNI Graduate College Brown Bag Lecture Series, May 2014.
- Diesburg S.** When Delete Means Delete: Secure Deletion of Files on Electronic Media, Invited Talk for the *2014 ACM University of Iowa Computing Conference*, March 2014.
- 2013 **Diesburg S.** Secure Deletion of Files in the Operating System Storage Data Path, Seminar, UNI, February 2013.
- 2012 **Diesburg S.** Per-file Full-data-path Secure Deletion for Electronic Storage, FSU Operating Systems Guest Lecture, October 2012.
- Diesburg S.** TrueErase: Secure Deletion on Flash Storage, FSU Advanced Operating Systems Guest Lecture, January 2012.

- 2009 **Diesburg S.** TrueErase: Secure Deletion on Flash Storage. Presented at the *Feed Your Brain Symposium at the FSU College of Communication and Information*, November 2009.
- Diesburg S.** TrueErase: Secure Deletion on Electronic Media, FSU Board of Trustees, August 2009.
- Diesburg S.** Full-Datapath Secure Data Deletion, Invited Talk, UNI, May 2009.
- Diesburg S.** Full-Datapath Secure Data Deletion, *FSU ACM Student Research Conference*, April 2009.
- Diesburg S.** Security Technologies, Invited Talk, Department of Criminology, FSU, April 2009.
- 2007 **Diesburg S.** Organizing a Computing Mentorship for Middle School Students: What Did I Get Myself Into? In *Students & Technology in Academia, Research & Service Summer Workshop 2007*, August 2007.

Student Peer-Reviewed Presentations

- 2019 Garling S (student), West P (advisor), **Diesburg S** (advisor). Danger with Digital Forensics. *National Conference on Undergraduate Research (NCUR) 2019*, Kennesaw State University, April 2019.

Posters

- 2023 **Diesburg S** and Schafer J B. Scaling Up to a Statewide Network for CS Teacher Preparation by Introducing AEA Community of Practice Partnerships. In *Proceedings of the 54th ACM Technical Symposium on Computer Science Education*, March 2023.
<https://doi.org/10.1145/3545947.3576341>
- 2022 Ur Rehman T (student), Jaisinghani D (advisor), **Diesburg S** (advisor), and Berns A (advisor). Towards Understanding the Robustness of Flying Mesh Network. *Summer Undergraduate Research Program (SURP) Symposium*, July 2022.
- Owens S (student), Jaisinghani D (advisor), **Diesburg S** (advisor), and Berns A (advisor). Quantifying the Impact of IoT Networks when Co-Existing with Production Wi-Fi Networks. *Summer Undergraduate Research Program (SURP) Symposium*, July 2022.
- Xerxa V (student) Jaisinghani D (advisor), **Diesburg S** (advisor), and Berns A (advisor). Leveraging ML to Detect Interference Patterns of Co-Existing IoT and Non-IoT Networks. *Summer Undergraduate Research Program (SURP) Symposium*, July 2022.
- Afeaneku W (student), Jaisinghani D (advisor), **Diesburg S**, and Berns, A. SocioApp: Neural Networks to Detect How Social Are You? *Summer Undergraduate Research Program (SURP) Symposium*, July 2022.
- Michalick T (student), Kirschbaum S (student), Jaisinghani D (advisor), **Diesburg S** (advisor), Berns A (advisor). Towards a Flying Mesh Network for Disaster Scenarios. *Research in the Capitol*, Feb 2022.
- 2021 Walker A (student) , Jaisinghani D (advisor), **Diesburg S** (advisor). SocioApp: Detecting Your Sociability Status with Your Smartphone. *UNI Summer Undergraduate Research Symposium*, July 2021

- Cronin C (student), Purvis B (student), **Diesburg S** (advisor), Jaisinghani D (advisor). On the Vulnerability of OpenThread to Agile Denial of Service Attacks. *UNI Summer Undergraduate Research Symposium*, July 2021
- Purvis B (student), Jaisinghani D (advisor), **Diesburg S** (advisor), Rashid H. Exploring Mesh Networks for Smart Buildings. *UNI Summer Undergraduate Research Symposium*, July 2021
- 2020 **Diesburg S**, Berns A. Fileshark: A Graphical File System Visualization Tool. *The 51st ACM Technical Symposium on Computer Science Education (SIGCSE) 2020*, March 2020. (1-page paper published in ACM Proceedings, 63% acceptance rate)
- 2019 **Diesburg S**, East J. Philip, Scafer, J. Ben. What Well-Prepared CS Teachers Should Know. *2019 Computer Science Teachers Association (CSTA) Annual Conference*, July 2019.
- Diesburg S**, East J. Philip, Schafer J. Ben. A Statewide Network for Teacher Preparation in Computer Science. *50th ACM Technical Symposium on Computer Science Education (SIGCSE) 2019*, March 2019.
- 2016 Oswald C (student), Brown B (student), **Diesburg S** (advisor), Feldhaus CA (advisor). Motion Virtual Manipulatives: Emerging Technology for the Elementary Math Classroom. *UNI Summer Undergraduate Research Symposium*, July 2016.
- 2015 Boudreau C (student), Oswald C (student), **Diesburg S** (advisor), Feldhaus CA (advisor). Design and Evaluation of Motion Virtual Manipulatives in Elementary Mathematics. *UNI Summer Undergraduate Research Symposium*, July 2015.
- 2014 **Diesburg S**. User Deletion Practices on Sold and Traded Thumb Drives. *UNI Pre-Tenure Summer Fellowship Poster Symposium*, October 2014.
- Al Fardan M (student) and **Diesburg S** (advisor). Analysis of Deletion Habits on Used USB Thumb Drives. *UNI Summer Undergraduate Research Symposium*, August 2014.
- 2010 **Diesburg S**, Meyers C, Wang AIA. Full-Datapath Per-file Secure Deletion. *2010 Grace Hopper Celebration*, General Poster Session, September 2010.
- 2008 Norena K, Fontaine S, Small M, Johnson A, Achury M, **Diesburg S**. CCN on the Road. *STARS Summer Workshop*, August 2008.
- 2007 **Diesburg S**. Organizing a Computing Mentorship for Middle School Students. *STARS Summer Workshop, August 2007*. (2nd place in the retention category)
- 2006 Birch J, **Diesburg S**, Latislaw C, Miller A, Wynn S. Florida State University's Bridging with Big Bend Gifted Students. *STARS Summer Workshop*, August 2006.
- 2004 Gray P, Joiner D, **Diesburg S**. The Bootable Cluster CD. *Oklahoma Supercomputing Symposium*, October 2004.

Honors and Awards

- 2023 **Iowa Distinguished Faculty of the Year**, American Association of University Women (AAUW). The purpose of this award is to recognize women faculty's exemplary contributions toward creating a climate of gender equity in education in the state of Iowa. Awarded April 2023.

- First Year Student Advocate.** Named by at least one new student as the person who has been most supportive of their success at UNI, Office of Student Success and Retention. (Spring 2023)
- 2022 **Iowa Computer Science Educator of the Year,** Technology Association of Iowa (TAI), Prometheus Awards. One of five overall winners, only winner in 4-year college education space. Des Moines, IA, Nov 2022.
- Supportive Student Advocate.** Named by at least one student as the person who has been them most supportive of their success at UNI, Office of Student Success and Retention. (Fall 2022)
- 2021 **Transfer Student Advocate.** Named by at least one transfer student as the person who has been most supportive of their success at UNI, Office of Student Success and Retention. (March 2021)
- Positive impact on a student.** Named on a survey to UNI undergraduates as having made a positive impact on a student during this ongoing pandemic by the UNI Office of Institutional Research & Effectiveness. (March 2021)
- 2019 **First Year Student Advocate.** Named by at least one new student as the person who has been most supportive of their success at UNI, Office of Student Success and Retention. (November 2019)
- Transfer Student Advocate.** Named by at least one transfer student as the person who has been most supportive of their success at UNI, Office of Student Success and Retention. (November 2019)
- Nominated for the UNI Student Learning Award.** The Student Learning Award is given to faculty members who exhibit a passion for teaching and student learning. (Spring 2019)
- 2017 **UNI Center for Educational Transformation Fellow.** (Spring 2017)
- 2016 **Iowa Women of Innovation Overall Winner** in the Academic Innovation and Leadership category, Technology Association of Iowa (TIA), November 2016.
- Recognized as a faculty member going above and beyond** in providing academic accommodations, UNI Office of Student Disability Services. (April 2016)
- UNI Center for Educational Transformation Fellow.** (Spring 2016—Fall 2016)
- 2015 **Iowa Women of Innovation Finalist** in the Academic Innovation and Leadership category, Technology Association of Iowa (TIA), November 2015.
- UNI Center for Educational Transformation Fellow.** (Fall 2015)
- Award Winner, NCWIT EngageCSEdu Engagement Excellence Award.** March 2015. (\$5,000)
- Nomination, Dean's Award for Teaching Excellence in Departmental Programs,** March 2015.
- 2014 **Nominated in UNI MAP-Works** as most helpful to a UNI freshman, April 2014.
- 2013 **Nominated in UNI MAP-Works** as most helpful to a UNI freshman, October 2013.

Scholarships and Teaching Grants

- 2019 **Principal Educational Project Grant** in support of Iowa high school computer science teachers currently enrolled in our NSF-sponsored teacher preparation program. \$20,000. Funded in Spring 2019.

- NSF travel grant** to attend the 4th international conference on Research on Equity & Sustained Participation in Engineering, Computing, & Technology (RESPECT) 2019. (Travel grant covered registration, transportation, and one night of hotel.) Feb 2019.
- 2018 **Departmental course redevelopment grant** (Walljasper funds) to develop the CS 4410 System Security course to use the new vSphere virtual environment. (0.5 month salary.) Summer 2018.
- Faculty travel grant** to attend the Women in CyberSecurity (WiCyS) 2018 conference. (Travel grant covered two nights of hotel.) March 2018.
- NSF faculty workshop and travel grant** to cover workshop Understanding the Essence of Successful Computing Education Projects through Analyzing NSF Proposals at the 2018 ACM SIGCSE Conference. (Travel grant covered workshop cost and one hotel night.) February 2018.
- 2017 **NSF faculty workshop and travel grant** to cover workshop Computer Science for All (CS for All: RPP) Researcher Practitioner Partnerships Workshops for Aspiring PIs in Chicago, Illinois. (Travel grant covered workshop cost, transportation, and one hotel night.) January 2017.
- 2015 **Faculty scholarship** to attend the CRA-W Early Career Mentoring Workshop at SIGCSE '15. March 2015.

Teaching Experience

(** Denotes UNI fresh preparations)
UNI

- Spring 2023 **CS 1510 Introduction to Computer Science.** Two sections (one lecture). Managed course materials and prepared lectures, assignments, and exams for 39 students.
- CS 3140 Database Systems.** Off-load. Taught class for one student due to a previous semester advising error so that the student could graduate with her data science minor.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for 1 undergraduate lab TA to assist with course CS1510.
- CS 4400 System Administration.** One section. Developed course materials and prepared hands-on projects for 11 students.
- CS 4410 System Security.** One section. Developed course materials and prepared hands-on projects for 11 students.
- Fall 2022 **CS 1510 Introduction to Computer Science.** Six sections (two lectures). Managed course materials and prepared lectures, assignments, and exams for 93 students.
- CS 3140 Database Systems**.** One section. Managed course materials and prepared lectures, assignments, and exams for 30 students.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for 4 undergraduate lab TAs to assist with course CS1510.
- Spring 2022 **CS 1510 Introduction to Computer Science.** Two sections (one lecture). Managed course materials and prepared lectures, assignments, and exams for 38 students.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for 2 undergraduate lab TAs to assist with course CS1510.

- CS 4410 System Security.** One section. Developed course materials and prepared hands-on projects in system security for 8 students.
- Fall 2021 **CS 1510 Introduction to Computer Science.** Six sections (two lectures). Managed course materials and prepared lectures, assignments, and exams for 74 students.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for 2 undergraduate lab TAs to assist with course CS1510.
- Spring 2021 **CS 1510 Introduction to Computer Science.** Three sections (one lecture). Managed course materials and prepared lectures, assignments, and exams for 40 students.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for 2 undergraduate lab TAs to assist with course CS1510
- CS 4410 System Security.** One section. Developed course materials and prepared hands-on projects in system security for 12 students.
- Fall 2020 **CS 1510 Introduction to Computer Science.** Six sections (two lectures). Managed course materials and prepared lectures, assignments, and exams for 61 students.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for 3 undergraduate lab TAs to assist with course CS1510.
- Spring 2020 **CS 1510 Introduction to Computer Science.** One section (one lecture). Managed course materials and prepared lectures, assignments, and exams for 26 students.
- CS 3430 Operating Systems.** One section. Managed course materials and prepared lectures, labs, assignments, and exams for 34 students. Updated textbook.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for 1 undergraduate lab TA to assist with course CS1510.
- CS 4400 System Administration** Prepared materials and supervised 3 students through guided activities, projects, and documentation.
- CS 4410 System Security.** One section. Developed course materials and prepared hands-on projects in system security for 21 students. Updated offensive tools topics and version of WebGoat.
- Fall 2019 **CS 1510 Introduction to Computer Science.** Six sections (two lectures). Managed course materials and prepared lectures, assignments, and exams for 66 students.
- CS 3470 Networking.** One section. Managed course materials and prepared lectures, labs, assignments, and exams for 33 students.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for 3 undergraduate lab TAs to assist with course CS1510.
- CS 4400 System Administration (guided independent study)**** Prepared materials and supervised one student through guided activities.
- Summer 2019 **CS 4133/5133 Foundational Concepts of Computer Science.**** Two sections, online with synchronous meetup format. Co-taught course with Ben Schafer. Managed course materials and prepared informational videos, competency demos, and projects for 49 in-service teachers in the state of Iowa in conjunction with the NSF RPP grant.
- Spring 2019 **CS 1510 Introduction to Computer Science.** Two sections (one lecture). Managed course materials and prepared lectures, assignments, and exams for 43 students.

- CS 3430 Operating Systems.** One section. Managed course materials and prepared lectures for 31 students.
- CS 4410 System Security.** One section. Developed course materials and prepared hands-on projects in system security for 19 students.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for three undergraduate lab teaching assistants to assist with course CS1510.
- Fall 2018 **CS 1510 Introduction to Computer Science.** Six sections (two lectures). Managed course materials and prepared lectures, assignments, and exams for 76 students. Introduced new autolab grading system and prepared scripts for auto-grading homework submissions.
- CS 3470 Networking.** One section. Managed course materials and prepared lectures, labs, assignments, and exams for 37 students.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for 3 undergraduate lab TAs to assist with course CS1510.
- Summer 2018 **CS 5133 Foundations of Programming.**** Co-taught with Ben Schafer and Philip East. Created some course material, managed course infrastructure, and managed homework submissions for 37 students (primarily in-service teachers) in conjunction with the NSF RPP grant.
- Spring 2018 **CS 1510 Introduction to Computer Science.** Two sections (one lecture). Managed course materials and prepared lectures, assignments, and exams for 45 students.
- CS 3430 Operating Systems.** One section. Managed course materials and prepared lectures for 32 students.
- CS 4410 System Security.**** Fresh preparation of the system security projects course. One section. Developed course materials and prepared hands-on projects in system security for 21 students.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for two undergraduate grading assistants and one undergraduate lab teaching assistant to assist with course CS1510.
- Spring 2017 **CS 1510 Introduction to Computer Science.** Two sections (one lecture). Managed course materials and prepared lectures, assignments, and exams for 45 students. Conducted 2 lab sessions.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for one lab assistant and one lab assistant/undergraduate grading assistant to assist with course CS1510.
- Fall 2016 **CS 1510 Introduction to Computer Science.** Four sections (two lectures). Managed course materials and prepared lectures, assignments, and exams for 90 students.
- CS 3470 Networking.** One section. Managed course materials and prepared lectures, labs, assignments, and exams for 30 students.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for undergraduate grading assistants to assist with course CS1510.
- Spring 2016 **CS 1510 Introduction to Computer Science.** Two sections. Managed course materials and prepared lectures, labs, assignments, and exams for 47 students. Conducted 2 lab sections.

- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for one undergraduate lab assistant TAs and one grading/lab assistant TA for course CS1510.
- CS 3430 Operating Systems.** One section. Managed course materials and prepared lectures for 32 students.
- Fall 2015 **CS 1510 Introduction to Computer Science.** Two sections. Managed course materials and prepared lectures, labs, assignments, and exams for 40 students. Conducted 2 lab sections.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for two undergraduate lab assistant TAs and one grading assistant TA for course CS1510.
- Spring 2015 **CS 1510 Introduction to Computer Science.** Two sections. Managed course materials and prepared lectures, labs, assignments, and exams for 41 students. Conducted 2 lab sections.
- CS 3430 Operating Systems.** One section. Managed course materials and prepared lectures for 32 students.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for two undergraduate grader/lab assistant TAs for course CS1510.
- Fall 2014 **CS 1510 Introduction to Computer Science.** Managed course materials and prepared lectures, labs, assignments, and exams for 30 students.
- CS 3470 Networking.** Managed course materials and prepared lectures, labs, assignments, and exams for 32 students.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for one homework undergraduate TA to assist with course CS1510.
- Spring 2014 **CS 1510 Introduction to Computer Science.** One section. Managed course materials and prepared lectures, labs, assignments, and exams for 28 students. Conducted one lab section.
- CS 3430 Operating Systems.**** Fresh preparation of the computer operating systems course. Managed course materials and prepared lectures for 25 students. Created new projects, homeworks, and exams.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for one lab undergraduate TA to assist with course CS1510.
- CS 4186 Studies in Operating System Security.**** Guided independent study for one student. Topics include readings and experimentation in applied operating system and security concepts, which included file systems, storage devices, forensic analysis tools, device drivers, and core operating system security structures.
- Fall 2013 **CS 1510 Introduction to Computer Science.**** Fresh preparation of the introductory course to computer science with the Python programming language. Managed course materials and prepared lectures, labs, assignments, and exams for 30 students. Supervised and developed activities for one lab undergraduate TA and one homework undergraduate TA.
- CS 3470 Networking.**** Fresh preparation of the computer networking course. Managed course materials and prepared lectures for 26 students. Created new programming-oriented projects, course homeworks, and exams.
- CS 3186 Studies in Computer Science Education.** Supervised and developed activities for one lab undergraduate TA and one homework undergraduate TA to assist with course CS1510.

- 2013 **COP 5641 Linux Kernel and Device Drivers.** Partial fresh preparation of the graduate-level Linux kernel and device drivers programming course. Managed course materials and prepared lectures, quizzes, and projects for 8 students. Supervised one TA and graduate student projects. [Reviews: median 1 on scale of 1 (highest) to 5]
- 2012 **CIS 4390/COP 5641 Linux Kernel and Device Drivers.** Co-lectured and supervised graduate and undergraduate student projects in the Linux kernel and device drivers programming course.
- 2011 **COP 4610 Introduction to Operating Systems.** Lead lecturer of the undergraduate Introduction to Operating Systems course. Managed course material and prepared lectures and assignments for 35 students. Supervised recitation TA and project development. [Reviews: median 1 on scale of 1 (highest) to 5]
- 2010 **COP 4610/CGS 5765 Introduction to Operating Systems.** Teaching assistant for the recitation/project section of the undergraduate Introduction to Operating Systems course. Prepared and graded projects for 45 students. [Reviews: median 1 on scale of 1(highest) to 5]
- 2008 **CGS 2060 Computer Literacy.** Lead lecturer of the Apple computer literacy course, both online and face-to-face. Supervised 200 online students, 3 graders, and 2 recitation instructors. Prepared and delivered weekly lectures to 40 classroom students. [Reviews: median 1 on scale of 1 (highest) to 5]
- 2007 **CGS 2060 Computer Literacy.** Teaching assistant for the PC computer literacy recitation for 23 students, some administrative duties. [Reviews: median 1 on scale of 1 (highest) to 5]

Service Grants

- 2019-2022 **Principal Student Empowerment Fund**, for Women in Computing, 2019-2022. \$1000 per year for 3 years.

Service

- 2022-2023 **Robotic Workshop, Cedar SWE Girls Conference** workshop for middle school girls. Gave three 1-hour workshops to middle school girls teaching basic programming and problem-solving skills using Lego Spike Prime robots. November 2022.
- Panelist** for CETL panel on LLM artificial intelligence agents called “When Bots Show Up at School: A.I. Tools and Learning” in January 2023.
- Organizer**, fall semester “CS Social Hour” where each student group is introduced by faculty advisors followed up by breakout sessions (Fall 2022).
- Organizer**, multi-student group trip to the Iowa Technology Summit (including van and hotel for 8 students) in Spring 2023.
- Vice President**, CHAS Senate.
- Departmental Student Outcome Assessments**, committee member.
- Department Committee Chair**, Performance Assessment Committee (PAC).
- Maintenance of Departmental VMWare vSphere server and firewall**, in conjunction with ITS.
- National Center for Women in Information Technology (NCWIT)**, UNI departmental liaison.

Faculty advisor for UNI Women in Computing (WiC) student group.

Spring 2022

Student Group General Activities, coordinated effort for “CS Social Hour” in January 2022 to have a single in-person event introduce students to our three departmental student groups. Led effort to recruit 10 CS students to apply for scholarships and attend the 2022 Iowa Technology Summit in Des Moines, Iowa in April 2022.

UNIFI Data Science Certificate Team Lead, facilitated meetings with 5 other faculty from Mathematics, Political Science, and Physics. Wrote and submitted proposal subsequently accepted into UNIFI. Created new course proposal for CS 1150 Introduction to Programming for Data Science accepted into UNIFI for the Data Science Certificate Spring 2022.

Accepted Participant, UNIFI Certificate Development Institute to prepare a data science certificate, January 2022.

Committee Chair, Performance Assessment Committee (PAC) for Computer Science Department.

CHAS Senator, UNI CHAS Senate for 3-year term, starting August 2021.

Maintenance of Departmental VMWare vSphere server and firewall, in conjunction with ITS.

National Center for Women in Information Technology (NCWIT), UNI departmental liaison.

Faculty advisor for UNI Women in Computing (WiC) student group.

Discord Sponsor, faculty member supervising discord server project started by Jordyn Kleinheksel, Spring 2022.

2021

Search Committee Member, Security Analyst, UNI Information Security, December 2021.

Program Committee Member, 11th Workshop on Socio-Technical Aspects in Security and Trust (STAST '21), December 2021. Reviewed three papers.

Committee Chair, Performance Assessment Committee (PAC) for Computer Science Department, Fall 2021.

CHAS Senator, UNI CHAS Senate for 3-year term, starting August 2021.

Departmental Student Outcome Assessments, committee member, July 2021.

Accepted Participant, UNI General Education Course Development Institute to prepare a course for submission to the new general education curriculum, May 2021.

Workshop Facilitator, UNI Faculty Focus Workshop to provide real-time feedback/coaching on efforts to incorporate classroom technology in their courses, January 20, 2021

Grant Reviewer, UNI Capacity Grants, Research and Sponsored Programs. Reviewed three applications in January 2021.

Maintenance of Departmental VMWare vSphere server and firewall, in conjunction with ITS.

National Center for Women in Information Technology (NCWIT), UNI departmental liaison.

Faculty advisor for UNI Women in Computing (WiC) student group.

2020

Committee Member, UNI Campus First-Generation Committee (to improve recruitment and retention of first-generation undergraduate students), Fall 2020 to Spring 2021.

Committee Member, Performance Assessment Committee (PAC) for Computer Science Department, Fall 2020.

Alternate, UNI Secondary Teaching Senate. The position represents the CS education program in our department.

Program Committee Member, 10th Workshop on Socio-Technical Aspects in Security and Trust (STAST '20), December 2020. Reviewed three papers.

Invited Paper Reviewer, The ACM CHI 2020 Conference on Human Factors in Computing Systems, April 2020. Reviewed one paper as an expert on the topic.

Committee Member, Faculty Hiring Committee (general position with preference for Systems), Department of Computer Science, UNI, Spring 2020.

Maintenance of Departmental VMWare vSphere server and firewall, in conjunction with ITS.

National Center for Women in Information Technology (NCWIT), UNI departmental liaison.

Faculty advisor for UNI Women in Computing (WiC) student group.

2019

Robotic Workshop, Cedar Valley Expanding Your Horizons workshop for middle school girls, November 2019. Gave three 1-hour workshops to a total of 18 middle school girls teaching basic programming and problem-solving skills using Lego Mindstorm EV3 robots.

Program Committee Member, 9th Workshop on Socio-Technical Aspects in Security and Trust (STAST '19), December 2019. Reviewed three papers.

Committee Member, Promotion, Tenure, and Annual Requirements, Department of Computer Science, UNI, Spring 2019.

Committee Member, Faculty Hiring Committee (systems position and general position), Department of Computer Science, UNI, Spring 2019.

Maintenance of Departmental VMWare vSphere server and firewall, in conjunction with ITS.

National Center for Women in Information Technology (NCWIT), UNI departmental liaison.

Faculty advisor for UNI Women in Computing (WiC) student group.

2018

Committee Member, Promotion, Tenure, and Annual Requirements, Department of Computer Science, UNI, Fall 2018.

Workshop Organizer (in conjunction with NCWIT), Understanding Computer Science – Central Rivers AEA, November 2018. This workshop engaged guidance counselors and administrators of districts in our NSF CSForAll RPP cohort on the importance of computer science and how to encourage students to take computer science courses.

Program Committee Member, 8th Workshop on Socio-Technical Aspects in Security and Trust (STAST '18), December 2018.

Creation and Maintenance of Departmental VMWare vSphere server, set up in conjunction with ITS, starting May 2018.

Program Committee Member, Special Interest Group on Computer Science Education (SIGCSE) Technical Symposium, February 2018.

- National Center for Women in Information Technology (NCWIT)**, UNI departmental liaison.
- Faculty advisor** for UNI Women in Computing (WiC) student group.
- 2017 **Departmental Student Outcome Assessments**, CS 1510 Intro to Computer Science, December 2017.
- Program Committee Member**, 7th Workshop on Socio-Technical Aspects in Security and Trust (STAST '17), December 2017.
- Faculty STEM Summer Camp Counselor**, Introduction to Robots for Girls, UNI, June 2017.
- Career Workshop, "A World of Girls" for Girl Scouts**, workshop for elementary school girls, February 4th, 2017. In coordination with Women in Computing, held two half-hour workshops talking about computer science and different technical careers.
- National Center for Women in Information Technology (NCWIT)**, UNI departmental liaison.
- Faculty advisor** for UNI Women in Computing (WiC) student group.
- 2016 **Panel Chair**, Social Interactions, 6th Workshop on Socio-Technical Aspects in Security and Trust (STAST '16), December 2016.
- Faculty Collaborator, EngageCSEdu Syllabus Program**, November 2016.
- ACM Poster Competition Judge**, Grace Hopper Celebration of Women in Computing. October 2016.
- Faculty Evaluator**, NCWIT EngageCSEdu submitted materials, August 2016.
- Committee Member**, UNI Summer STEM Campership (scholarship) Committee, UNI, May-July 2016.
- Faculty STEM Summer Camp Co-counselor**, Introduction to Robots (co-ed), UNI, June 2016.
- Faculty STEM Summer Camp Co-counselor**, Introduction to Robots for Girls, UNI, June 2016.
- Committee Member**, Faculty Hiring Committee, Department of Computer Science, UNI, Spring 2016.
- National Center for Women in Information Technology (NCWIT)**, UNI departmental liaison.
- Faculty advisor** for UNI Women in Computing (WiC) student group.
- Program Committee Member**, EngageCSEdu Engagement Excellence Award Committee, Jan 2016—Mar 2016.
- 2015 **Program Committee Member**, Missouri Iowa Nebraska Kansas Women in Computing (MINK WIC) Conference, poster competition, October 2015.
- Faculty advisor** for newly-formed UNI Women in Computing (WiC) student group.
- Co-organizer** for Women's History Month Keynote Address/Panel: "Can I Play, Too? Gender Equity in the Age of #Gamergate," Women & Gender Studies, March 31, 2015.
- UNI Women and Gender Studies Program Faculty**, 2015.

- Program Committee Member**, TinyToCS Volume 3, February 2015. Reviewed 6 abbreviated journal papers.
- Faculty Mentor for Iowa State Cyber Defense Competition**, assisted undergraduate student teams prepare and participate, February 2015.
- National Center for Women in Information Technology (NCWIT)**, UNI departmental liaison.
- 2014 **Robotic Workshop, Cedar Valley Expanding Your Horizons (Fall)** workshop for middle school girls, *October 2014*. Gave three 1-hour workshops to total of 25 girls teaching basic programming and problem-solving skills using Lego Mindstorm EV3 robots.
- Robotic Workshop, Cedar Valley Expanding Your Horizons (Spring)** workshop for middle school girls, *March 2014*. Gave three 1-hour workshops to total of 24 girls teaching basic programming and problem-solving skills using Lego Mindstorm EV3 robots.
- Faculty Mentor for Iowa State Cyber Defense Competition**, assisted undergraduate student teams prepare and participate, February 2014.
- National Center for Women in Information Technology (NCWIT)**, UNI departmental liaison.
- 2013 **Panel Chair**, Passwords and Authentication, Annual Computer Security and Applications Conference (ACSAC 29), December 2013.
- Program Committee Member**, Annual Computer Security and Applications Conference (ACSAC 29).
- Shepherd**, Pitfalls in the Automated Strengthening of Passwords, Schmidt et al., appears in ACSAC 29.
- National Center for Women in Information Technology (NCWIT)**, UNI departmental liaison.
- 2011-2012 **ACM Nomination Committee Member**, local chapter.
- 2010 **ACM Programming Organizer**, developed two questions used in the Spring FSU ACM Programming Contest, March 2010.
- Panel Participant**, FSU Graduate Research & Creativity Award, March 2010.
- Panel Participant**, FSU Workshop for Undergraduates Interested in Graduate School, March 2010.
- 2009 **Shadow Program Committee**, 22nd ACM Symposium on Operating System Principles.
- Scribe**, the ACM Symposium on Operating Systems Principles and the USENIX Security Symposium.

Students Supervised

- Spring 2023 James Sturm, undergraduate thesis
- Fall 2022 Jacob Metzen, undergraduate thesis
- Summer 2022 Tanzeel Rehman, undergraduate research assistant (SURP student)
- Summer 2021 Casey Cronin, undergraduate research assistant (SURP student)
- Spring 2021 Vallab Badrish, undergraduate thesis

	Habib Ullah, undergraduate thesis
Fall 2019	Tyler Rahl, undergraduate thesis Kirsten Olson, masters thesis advisory committee (science education)
Summer 2019	Kirsten Olson, masters thesis advisory committee (science education)
Spring 2019	Kirsten Olson, masters thesis advisory committee (science education) Blake Morris, undergraduate thesis
Fall 2018	Kirsten Olson, masters thesis advisory committee (science education) Jacob Bundt, undergraduate thesis / honors thesis Blake Morris, undergraduate thesis Matthew Eltze, undergraduate thesis Claire Guderjahn, undergraduate research
Summer 2018	Kirsten Olson, masters thesis advisory committee (science education)
Spring 2018	Kirsten Olson, masters thesis advisory committee (science education) Jacob Bundt, undergraduate thesis / honors thesis
Spring 2017	Beau Brown, undergraduate thesis and undergraduate research assistant Malissa Keller, undergraduate thesis Danielle Heim, undergraduate thesis Coved Oswald, undergraduate research assistant
Summer 2016	Beau Brown, undergraduate research assistant (SURP student) Coved Oswald, undergraduate research assistant (SURP student)
Spring 2016	Chelsey Baysinger, undergraduate thesis Lisa Diercks, undergraduate thesis / honors thesis
Fall 2015	Coved Oswald, undergraduate thesis / undergraduate research assistant Cole Boudreau, undergraduate thesis / undergraduate research assistant / honors thesis Jessica Thatcher, undergraduate thesis
Summer 2015	Coved Oswald, undergraduate research assistant (SURP student) Cole Boudreau, undergraduate research assistant (SURP student)
Spring 2015	Jonathan Schlicht, undergraduate thesis / undergraduate research assistant Scott Recker, undergraduate thesis Abigail Beets, undergraduate thesis
Fall 2014	Mojtaba Al Fardan, undergraduate thesis / undergraduate research assistant (SURP student) Levi Bostian, undergraduate thesis
Spring 2013	Nigel Ploof, undergraduate research assistant

Underrepresented Students in CS Funded to Attend Conferences

Note: For the following listing, I recruited the following students and assisted them in finding funding through scholarships or university funds to attend important conferences shown to increase their retention and engagement in the major. In many instances, I also attended the conferences with the students.

2023	<i>Iowa Technology Summit:</i> Sara Leisinger, Vesa Xerxa, Engjella Halili
2022	<i>Grace Hopper Celebration of Women in Computing:</i> Vesa Xerxa, Shekynah Haworth (virtual)

- Iowa Technology Summit:** Vesa Xerxa, Shekynah Haworth.
- 2021 **Grace Hopper Celebration of Women in Computing:** Audrey Powers, Sarah Kirschbaum, Maggie Strickland. (virtual due to COVID-19)
- 2020 **Grace Hopper Celebration of Women in Computing:** Audrey Powers. (virtual due to COVID-19)
- Women in Cyber Security (WiCyS):** Maria Perez, Iris Nguyen. (Canceled due to COVID-19.)
- 2019 **MINKWIC (Minnesota, Iowa, Nebraska, and Kansas Women in Computing) regional conference:** Josie Christiansen, Autumn Lauen, Iris Nguyen, Anna Kang, Audrey Powers, Paxton Fife, Alison Fife, Maria Perez.
- Women in Cyber Security (WiCyS):** Morgan Brus.
- 2018 **Grace Hopper Celebration of Women in Computing:** Abbey Ellis, Sarah Van Norden, Iris Nguyen, Claire Guderjahn.
- Women in Cyber Security (WiCyS):** Megan Yasuda, Miho Sanders.
- 2017 **Grace Hopper Celebration of Women in Computing:** Morgan Brus, Raven Fernandez, Charcey Petersen, Abigail Schmitt, Devyn Christoffer, Emma Wilker, Hannah Thompson.
- 2016 **Grace Hopper Celebration of Women in Computing:** Hannah Thompson, Lika Parker, Miho Sanders, Morgan Croell, Danielle Heim.
- 2015 **MINKWIC (Minnesota, Iowa, Nebraska, and Kansas Women in Computing) regional conference:** Hannah Thompson, Davien Schweitzer, Taylor French, Stephanie Smith.
- Grace Hopper Celebration of Women in Computing:** Michaela Leinen, Lisa Diercks, Danielle Heim.
- 2014 **Grace Hopper Celebration of Women in Computing:** Abigail Beets, Elizabeth Myers-Schmitt, Michaela Leinen, Ramya Varadaraju, Michelle Ploof, and Stephanie Smith.

Professional Society Memberships

ACM, NCWIT, Upsilon Pi Epsilon, Systems, WiCyS (Women in Cybersecurity), AnitaB.org