Chad Williams, Ph.D.

EDUCATION

Ph.D. **University of Illinois at Chicago**   **May 2010**
Computer Science
Thesis: *Learning Activity Patterns of Individuals*
Advisors: Peter Nelson (co-chair), Abolfazl Mohammadian (co-chair)

M.S. **DePaul University**, Chicago, Illinois   **May 2006**
Computer Science (with distinction)
Thesis: *Profile Injection Attack Detection for Securing*
            Collaborative Recommender Systems
Advisor: Bamshad Mobasher

B.S. **Cornell University**, Ithaca, New York   **May 1998**
Computer Science

ACADEMIC EXPERIENCE AND OTHER SIGNIFICANT WORK EXPERIENCE

- **Central Connecticut State University**, New Britain, CT

  - **Chair, Department of Computer Science**   2019 – present
    Manage department budget, enrollment efforts, and strategic vision for programs. The department offers 2 graduate programs, 3 undergraduate programs with 636 students, 10 full-time faculty, several part-time faculty, and student workers. Enrollment has grown 27% during my time as chair, and the Computer Science program has been reaccredited by ABET CAC under my leadership.

  - **Co-coordinator Cybersecurity Program**   2018 – present
    Co-created interdisciplinary Cybersecurity B.S. program, a collaboration of courses from 5 departments in 2018, that has grown to 150 students in 2023. As a result of this effort CCSU is now recognized by the National Security Agency as a National Center of Academic Excellence in Cybersecurity (NCAE-C) in both Cyber Defense Education (CAE-CD) and Cyber Operations (CAE-CO) becoming only the 22 institution in the country to receive this distinction at the time.

  - **Associate Professor, Department of Computer Science**   2020 – present
  - **Assistant Professor, Department of Computer Science**   2011 – 2020
    Taught 23 different course topics including developing 12 courses related to cybersecurity, software engineering, and core computer science topics. Several of these courses are now part of the core of the Cybersecurity BS and Software Engineering MS programs. Twice named semi-finalist for Excellence in Teaching Award. Obtained over 1.1 million dollars in national external grants as PI or co-PI. Won Outstanding Service Award for School of Engineering, Science, and

Last updated 08/17/2024

Technology

- **Assistant Professor, Bemidji State University**, tenure track, Department of Mathematics and Computer Science, Bemidji, MN
Taught 5 undergraduate course topics and conducted research. — 2010 – 2011

- **NSF Integrative Graduate Education and Research Traineeship (IGERT) Research Fellow, University of Illinois at Chicago**, Chicago, IL
The NSF IGERT program aimed at increasing the number of scientists able to recognize and lead interdisciplinary education and research efforts. Through specific training and joint research efforts, developed skills for facilitating cross-discipline collaboration. Conducted research in data mining analysis of mobile user patterns in interdisciplinary field of Computational Transportation Science. — 2006 – 2010

- **Teaching Associate, University of Illinois at Chicago**, Chicago, IL
Taught undergraduate Software Engineering. — 2006

- **Research Assistant, DePaul University**, Chicago, IL
Conducted research in open systems security issues in recommender systems for the Center for Web Intelligence — 2004 – 2006

- **Manager, Accenture**, Chicago, IL
Project manager and technical lead of teams of over 100 developers and business specialists developing secure software solutions for Fortune 500 companies in the financial services sector that included TransUnion, JP Morgan Chase, Washington Mutual, and Liberty Mutual Insurance. Led project planning, budget management, design and execution of project lifecycle through delivery and support of the production system. Created computational solutions for Fortune 500 companies in insurance, capital markets, banking, and credit reporting. Team lead in Accenture's initial offshore development effort which involved working in India for 3 months leading a multinational team. Responsible on several projects for coordinating numerous teams and associated contracts consisting of personnel from multiple consulting companies, and third-party software/service providers. — 2001 – 2004

- **Technical Architect, BlueMeteor Inc.**, Chicago, IL
Led 25-person development group in creation of the technical architecture framework design of one of the first cloud-based custom application hosting providers. Clients included Schering-Plough, CNN, and Crain Communications — 2000 – 2001

- **Consultant, Andersen Consulting (n/k/a Accenture)**, Chicago, IL
Development lead for claim handling systems developed for CNA Insurance, Allstate, and Reliance Insurance — 1998 – 2000

- **Project Staff, Cornell University**, Ithaca, NY
Developer on the Horus research project, responsible for creating cluster groupware distributed version control system. — 1997 – 1998

FELLOWSHIPS, AWARDS, AND OTHER HONORS

- **Excellence in Teaching Semi-Finalist,** CCSU — 2019, 2021
- **Pioneer of the Year**, nominated for creation of Open Educational Resources by the Student Government Association, Central Connecticut State University — 2019, 2020
- **Outstanding Service Award**, awarded by the Central Connecticut State University School of Engineering, Science, and Technology — 2019
- **Excellence in Teaching Honor Roll,** Central Connecticut State University — 2012, 2016, 2022,2023, 2024
- **Excellence in Teaching**, nominated, Central Connecticut State University — 2017, 2018, 2020
- **AAUP Research Grant** — 2018
- **Club Advisor of the Year**, awarded by SALD for advising Computer Science Club, Central Connecticut State University — 2017
- **Dean's Research Initiative funding** — 2012
- **NSF Integrative Graduate Education and Research Traineeship (IGERT) Fellow** — 2006–2010
  Interdisciplinary graduate education spanning science, technology, engineering, mathematics and social sciences
- **Best Paper Award**, The 8th IEEE Conference on E-Commerce Technology (CEC) — 2006
- **Best Paper Award**, DePaul Research Symposium/Midwest Software Engineering Conference — 2006
- **Phi Kappa Phi** Honor Society
- **Upsilon Pi Epsilon** International Honor Society for the Computing and Information Disciplines

GRANTS

- Principal Investigator, CCSU Next Generation Grant, "*Cultivating a Culture of Inclusion: Women Thriving in STEM,*" $24,000, 2024-2025, awarded.
- Co-Principal Investigator, CCSU Next Generation Grant, "*Transforming Software Engineering Education with Integrated Graduate-Undergraduate Mentorship,*" $15,000, 2024-2025, awarded.
- Co-Principal Investigator, National Science Foundation Grant, "*Scaffolded Projects for the Social Good,*" $288,100, 2023-2025, awarded.
- Co-Principal Investigator, CCSU Next Generation Grant, "*Model Industry 4.0 Factory – An Education and Research Platform,*" $58,080, 2023-2024, awarded.
- Co-Principal Investigator, CCSU Next Generation Grant, "*Pilot Cyber Range,*" $27,260, 2022-2023, awarded.
- Principal Investigator, National Security Agency GenCyber Grant, "*CCSU GenCyber Cybersecurity Future,*" $148,728, 2021-2024, awarded.
- Co-Principal Investigator, National Science Foundation Grant, "*Scholarships, Mentoring, and Career Development to Support Attainment of Software Engineering Graduate Degrees,*" $1,000,000, 2020-2025, awarded.
- Principal Investigator, Student Success Team Retention Grant, "*Retaining Women in Computer-Related Programs,*" $2,757.50, 2019-2020, awarded.

- Principal Investigator, CSU-AAUP Faculty Research Grant "Machine Learning Methods for Cyber Security Intrusion Detection," $1,265, 2018-2019, awarded.
- Principal Investigator, Google igniteCS Community Engagement Gift "CS Youth Outreach," $7055, 2016-2017, awarded
- Faculty Principal Investigator, Faculty Student Research Grant "Developing Algorithms for Diverse Recommendations," $500, 2016-2017, awarded.
- Principal Investigator, AAUP Curriculum Development Grant "Improving Student Learning with Raspberry Pi in the Computing Curriculum," $5,099, 2016-2017, awarded

RESEARCH PROJECTS

- **Scaffolded Software Projects for the Social Good, 2022-present.** Leveraging the knowledge and skills of future software engineers to help non-profits and community organizations with their software projects. The outcome is a sustainable studio-based framework where students can build and demonstrate their professional competencies in computing while serving the greater social good. Supported by NSF.

- **STEM and Computer Science Education Methods, 2014-present**

  o **Leveraging Creativity and Collaboration: A Student-driven Approach to Engaged Deeper Learning**

  Tapping into student interest and creativity has proven to increase engagement and encourage more independent exploratory learning. This study focuses on ways of incorporating creativity and collaboration in student projects to not only attain course learning outcomes, but also to inspire deeper exploration and understanding of material beyond more traditional assignments.

  o **More Effective Undergraduate Team Development**

  Study of student concerns in team evaluation that can lead to ineffective team development and ways to address these to promote student learning of more effective team development practices.

  o **Introducing Programming at a Young Age**

  Design and develop an application that allows elementary school children to teach themselves programming concepts and algorithmic thinking with limited guidance. Since this is an age where there is often a significant decrease in female interest in computer science, a central focus of this project is discovering and incorporating methods that address increasing female interest.

- **Scholarships, Mentoring, and Career Development to Support Attainment of Software Engineering Graduate Degrees, 2020-present**

  The program will support the study, implementation, and evaluation of curricular and co-curricular activities leading to improved academic success of low-income academically talented students. The proposed strategies are consistent with existing practices in higher education leading to successful persistence of low income and historically underrepresented students. The program will attract students with a broad

range of STEM experiences and offer them a unique opportunity to combine their interdisciplinary background with the study of software engineering. The program will provide a learning environment enriched by a significant number of industrial practices that will help students reach their full potential.

- **Retaining Women in Computer Programs, 2019-present**

  At CCSU, while the overall retention of Computer Science majors has been about 80% for the last 3 years, retention of women in these programs from Fall 2017 to Fall 2019 was only 51%. Similar lower retention numbers are seen throughout the country. We are looking to address this issue through multiple approaches across all computing programs offered by CCSU across the departments of Computer Science and Computer Electronics & Graphics Technology and look for methods that can be shared with the greater academic community.

- **Machine Learning Methods for Cyber Security Intrusion Detection, 2018-present**

  This research will focus on applying machine learning (ML) methods to improve intrusion detection system (IDS) identification and response to cyber security threats. Currently most IDS rely on one of two approaches. Either they focus on detecting known threats; or they try to identify new threats by flagging anomalies in the system. The proposed research would instead examine an alternative approach focused on applying ML methods to learn the meta characteristics of current known attacks. These attack characteristics would then be used to identify previously unseen attacks in a more targeted way than those based on anomalies alone.

- **Mobile Personalization Framework, 2011-2018**
  Design and development of a framework for mining traveler activity and planning patterns to enhance traveler context for the purpose of application personalization for mobile users. Framework can provide activity recognition and identify next locations, activities, and planning interests.

- **Data Stream Mining of Traveler Patterns, 2006-2010**
  Design and develop algorithms and techniques for mining streams of traveler data to identify significant locations, provide activity recognition, and utilize these to model future activity and location plans. Part of this project also addressed effective ways to handle missing data in the machine learning process.

- **Securing Recommender Systems, 2004-2006**
  Identification of the most effective attacks for influencing the predictions of collaborative recommender systems. Design and develop countermeasures to make open recommender systems more robust to malicious attacks.

PUBLICATIONS AND OTHER PROFESSIONAL ACTIVITIES

PUBLICATIONS – THESES
- **"Learning Activity Patterns of Individuals"**
  Chad Williams. *Ph.D. Thesis*. Department of Computer Science, University of Illinois at Chicago, Chicago, IL, 2010.
- **"Profile Injection Attack Detection for Securing Collaborative Recommender**

Systems"
Chad Williams. *MS Thesis.* Department of Computer Science, DePaul University, Chicago, IL, 2006.

PUBLICATIONS – EDITORSHIPS

- Member of Editorial Board, Journal of *Network and Communication Technologies*, Canadian Center of Science and Education.

PUBLICATIONS – REFEREED JOURNAL PAPERS

- **"Attribute Constrained Rules for Partially Labeled Sequence Completion"**
  Chad A. Williams, Peter C. Nelson and Abolfazl Mohammadian. *Advances in Data Mining - Applications and Theoretical Aspects*, vol. 5633 of Lecture Notes in Computer Science, (Petra Perner, ed.), July 2009, pp. 338 - 352.

- **"An Automated GPS-Based Prompted Recall Survey with Learning Algorithms"**
  Joshua Auld, Chad A. Williams, Abolfazl Mohammadian and Peter C. Nelson. *Transportation Letters: The International Journal of Transportation Research*, vol. 1, no. 1, Jan. 2009, pp. 59-79.

- **"Defending Recommender Systems: Detection of Profile Injection Attacks"**
  Chad Williams, Bamshad Mobasher and Robin Burke. *Service Oriented Computing and Applications*, vol. 1, no. 3, Nov. 2007, pp. 157-170.

- **"Toward Trustworthy Recommender Systems: An Analysis of Attack Models and Algorithm Robustness"**
  Bamshad Mobasher, Robin Burke, Runa Bhaumik and Chad Williams. *ACM Transactions on Internet Technology*, vol. 7, no. 4, Oct. 2007, ACM.

- **"Analysis and Detection of Segment-Focused Attacks Against Collaborative Recommendation"**
  Bamshad Mobasher, Robin Burke, Chad Williams and Runa Bhaumik. *Advances in Web Mining and Web Usage Analysis*, vol. 4198 of Lecture Notes in Artificial Intelligence, (O. R. Zaïane, O. Nasraoui and P. S. Yu, eds.), 2006, pp. 96-118.

REFEREED CONFERENCES AND WORKSHOPS

- **"WIP: A Systematic Approach to Screen and Align Service-Learning Projects for Optimal Student Outcomes,"** C. Williams, S. Kurkovsky, M. Goldweber, N. Sommer. *To appear in Proceedings of The 2024 IEEE Frontiers in Education Conference (FIE)*, October 13-16, 2024, Washington D.C., USA.

- **"WIP: Industry 4.0 Robotics - an Interdisciplinary Approach to Deep Learning,"** C. Williams, H.Wang, S. Kurkovsky, X. Hou, R. Sharp. *To appear in Proceedings of The 2024 IEEE Frontiers in Education Conference (FIE)*, October 13-16, 2024, Washington D.C., USA.

- **"External Projects and Partners: Addressing Challenges and Minimizing Risks from the Outset,"** S. Kurkovsky, C. Williams, M. Goldweber, N. Sommer. *Proceedings of The 29th annual ACM conference on Innovation and Technology in Computer Science Education (ITiCSE)*, July 8-10, 2024, Milan, Italy.

- **"Community-based Service Learning: Best Practices in Software Projects with Community Partners,"** S. Kurkovsky, C. Williams, M. Goldweber, N. Sommer. *In Proceedings of the 55th ACM Technical Symposium on Computer Science Education V. 2 (SIGCSE 2024)*, March 20-23, 2024, Portland, OR, USA.

- **"Scaffolded Projects for the Social Good: A Strategy for Deploying Studio Model in CS Education,"** Stan Kurkovsky, Mikey Goldweber, Nathan Sommer, and Chad A.

Williams. *Proceedings of the 55th ACM Technical Symposium on Computer Science Education (SIGCSE 2024)*, March 20--23, 2024, Portland, OR, USA.

- **"Making the Fundamentals of Cryptography Fun and Engaging**," Chad Williams, presented at the Computer Science Teachers Association New England Regional Conference, October 2018.
- **"Raspberry Pi Creativity: A Student-driven Approach to Teaching Software Design Patterns",** C. Williams, S. Kurkovsky. *Proceedings of The 2017 IEEE Frontiers in Education Conference*, Indianapolis, IN, USA, October 2017.
- **"Raspberry Pi as a Platform for the Internet of Things Projects: Experiences and Lessons",** S. Kurkovsky, C. Williams. Proceedings of *The 2017 ACM Conference on Innovation and Technology in Computer Science Education*, Bologna, Italy, July 2017.
- **"Teaching Programming Concepts to Elementary Students"**
  Chad Williams, Emtethal Alafghani, Antony Daley Jr., Kevin Gregory, and Marianella Rydzewski. *Proceedings of the 45th Frontiers in Education Conference (FIE)*, 2015.
- **"How to Train Your Robot: Computing Introduction for 8-10 Year Olds"**
  Chad Williams, Emtethal Alafghani, Antony Daley Jr., Kevin Gregory, and Marianella Rydzewski. *Poster presented at the 11th ap (ICER)*, 2015.
- **"How to Train Your Robot: Computing Introduction for 8-10 Year Olds"**
  Chad Williams, Emtethal Alafghani, Antony Daley Jr., Kevin Gregory, and Marianella Rydzewski. *Talk given at the 11th International Computing Education Research Conference (ICER)*, 2015.
- **"An Architecture for Mobile Context Services"**
  Chad Williams, Jisna Matthew. *Innovations and Advances in Computing, Informatics, Systems Sciences, Networking and Engineering*, vol. 313 of Lecture Notes in Electrical Engineering, (T. Sobh and K. Elleithy, ed.), 2015.
- **"Planning-Context Aware Mobile Recommendations"**
  Chad A. Williams and Sean T. Doherty. *New Trends in Networking, Computing, E-learning, Systems Sciences, and Engineering*, vol. 312 of Lecture Notes in Electrical Engineering, (K. Elleithy and T. Sobh, ed.), 2015.
- **"Modeling Mobile User Activity Planning Targets"**
  Chad A. Williams and Sean T. Doherty. Proceedings of the 22nd Conference on User Modelling, Adaptation, and Personalization, July 2014.
- **"Prompted recall travel surveying with GPS"**
  Joshua Auld, Chad Williams, and A. Mohammadian. *Transport Chicago Conference*. Zugegriffen. Vol. 15. 2013.
- **"The Importance of Timing in Mobile Personalization"**
  Chad Williams. *Proceedings of the 14th International Workshop on Mobile Computing Systems and Applications (HotMobile 2013)*, Feb. 2013.
- **" Enhancing Traveler Context Through Transferable Activity Patterns"**
  Chad Williams, Abolfazl Mohammadian, Josh Auld, and Sean Doherty. Proceedings of the Fourth International Conference on Mobile Computing, Applications and Services (MobiCASE), Oct. 2012.
- **"Results of the UTRACS Internet-based Prompted Recall GPS Activity-travel Survey for the Chicago Region"**
  Joshua Auld, Martina Frignani, Chad Williams, and Abolfazl Kouros Mohammadian. *Proceedings of the 12th World Conference on Transport Research (WTCR)*, July 2010.

- **"Urban Travel Route and Activity Choice Survey: Internet-Based Prompted Recall Activity Travel Survey Using GPS Data"**
  Martina Z. Frignani, Joshua Auld, Abolfazl Mohammadian, Chad Williams and Peter C. Nelson. *Proceedings of the 89th Annual Meeting of the Transportation Research Board*, Jan. 2010.
- **"Mining Sequential Association Rules for Traveler Context Prediction"**
  Chad A. Williams, Abolfazl Mohammadian, Peter C. Nelson and Sean T. Doherty. *Proceedings of the First International Workshop on Computational Transportation Science*, (Held at The International Conference on Mobile and Ubiquitous Systems: Networks and Services (MOBIQUITOUS 2008), Dublin, Ireland), July 2008.
- **"Classification Features for Attack Detection in Collaborative Recommender Systems"**
  Robin Burke, Bamshad Mobasher, Chad Williams and Runa Bhaumik. *KDD '06: Proceedings of the 12th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, (Philadelphia, Pennsylvania), 2006, pp. 542-547.
- **"The Impact of Attack Profile Classification on the Robustness of Collaborative Recommendation"**
  Chad Williams, Runa Bhaumik, Robin Burke and Bamshad Mobasher. *Proceedings of the 2006 WebKDD Workshop*, (Held at KDD 2006, Philadelphia, Pennsylvania), Aug. 2006.
- **"Detection of Obfuscated Attacks in Collaborative Recommender Systems"**
  Chad Williams, Bamshad Mobasher, Robin Burke, Jeff Sandvig and Runa Bhaumik. *Proceedings of the ECAI'06 Workshop on Recommender Systems*, (Held at the 17th European Conference on Artificial Intelligence (ECAI'06), Riva del Garda, Italy), Aug. 2006.
- **"Securing Collaborative Filtering Against Malicious Attacks Through Anomaly Detection"**
  Runa Bhaumik, Chad Williams, Bamshad Mobasher and Robin Burke. *Proceedings of the 4th Workshop on Intelligent Techniques for Web Personalization (ITWP'06)*, (Held at AAAI 2006, Boston, Massachusetts), July 2006.
- **"Detecting Profile Injection Attacks in Collaborative Recommender Systems"**
  Robin Burke, Bamshad Mobasher, Chad Williams and Runa Bhaumik. *Proceedings of the 8th IEEE Conference on E-Commerce Technology (CEC'06)*, (San Francisco, California), June 2006.
  * Winner of Best Paper Award
- **"Evaluation of Profile Injection Attacks in Collaborative Recommender Systems"**
  Chad Williams, Runa Bhaumik, Jeff Sandvig, Bamshad Mobasher and Robin Burke. *DePaul CTI Research Symposium /Midwest Software Engineering Conference (CTIRS/MSEC 2006)*, (Chicago, Illinois), Apr. 2006.
  * Winner of Best Paper Award
- **"Segment-Based Injection Attacks Against Collaborative Filtering Recommender Systems"**
  Robin Burke, Bamshad Mobasher, Runa Bhaumik and Chad Williams. *Proceedings of the 2005 International Conference on Data Mining (ICDM'05)*, (Houston, Texas), Nov. 2005.
- **"Collaborative Recommendation Vulnerability to Focused Bias Injection Attacks"**

Robin Burke, Bamshad Mobasher, Runa Bhaumik and Chad Williams. *Proceedings of the Workshop on Privacy and Security Aspects of Data Mining*, (Held at ICDM'05, Houston, Texas), Nov. 2005.

- **"Effective Attack Models for Shilling Item-Based Collaborative Filtering Systems"**
Bamshad Mobasher, Robin Burke, Runa Bhaumik and Chad Williams. *Proceedings of the 2005 WebKDD Workshop*, (Held at KDD 2005, Chicago, Illinois), Aug. 2005.

WORKSHOPS AND BIRDS OF A FEATHER

- **"Navigating Feasibility: Choosing Service-Learning Projects for Academic Fit"**
Stan Kurkovsky, Chad A. Williams, Mikey Goldweber, and Nathan Sommer. *Workshop at the Consortium for Computing Sciences in Colleges Northeast (CCSCNE 2024), April 12-13, 2024, Albany, NY, USA.*

- **"Community-based Service Learning: Best Practices in Software Projects with Community Partners"**
Mikey Goldweber, Stan Kurkovsky, Chad A. Williams, and Nathan Sommer. *BoF at the 55th ACM Technical Symposium on Computer Science Education (SIGCSE 2024), March 20-23, 2024, Portland, OR, USA.*

OTHER PUBLICATIONS

- **Open Educational Resource: Software Engineering Design Patterns Course,** https://github.com/CCSU-DesignPatterns/DesignPatternsCourseMaterial, 2018-present.

- **Open Educational Resource: Creativity vs Simplicity,** CLARK Cybersecurity Education Community, 2022.

- **"Genetically Evolving Optimal Neural Networks,"**
Chad Williams. *Neural Networks and Expert Systems*, The Institute of Chartered Financial Analysts of India (ICFAI), Jan. 2007.

CAPSTONES, THESES, AND DISSERTATIONS DIRECTED

- **"REAL: Real People, Real Connections"**
Dan Champagne, Matt Langeway, Matt Palkowski, and Mansimran Singh. MS Software Engineering and MS Computer Information Technology Capstone defended Spring 2022.

- **"Realtime Itinerary Travel Application – Itinerary Generation"**
David Hanley, and Benjamin Marshalkowski. MS Software Engineering Capstone defended Fall 2019.

- **"Realtime Itinerary Travel Application – Personalization"**
Ga Young Lee, Kimberly Niehaus, and Adrian Ward-Manthey. MS Software Engineering Capstone defended Fall 2019.

- **"RideAtWish – Negotiable Mobile Ride Platform"**
Aditi Sharma, Colin Kelly, Neelima Ganti, Sudha Bopini. MS CIT Capstone defended Spring 2019.

- **"CampusConnects – Social Media for Campus Communities"**
Olusola Agboola. MS CIT Capstone defended Spring 2019.

- **"Effective Course Registration at CCSU"**
Chad Tower and Jesse Silberstein. MS CIT Capstone defended Spring 2018.

- **"Data Mining For Website Personalization"**
Sonal Tamhane, Lavanya Mattaparthi, Vaidehi Paranjape, and Kruthika Ummadahalli Somaraju. MS CIT Capstone defended in Fall 2017.

- **"Mobile Application Market Place Security"**
  Simon Yawin. CCSU Honors Thesis accepted in Fall 2016.
- **"E-commerce Responsive Web Design - GharExpert.com"**
  Sakshi Chugh, Gayathri Satish, Prathyusha Surapaneni. MS CIT Capstone defended in Fall 2016.
- **"Teaching Programming Concepts to Elementary Students: How to Train Your Robot"**
  Emtethal Alafghani, Antony Daley, Jr., Kevin Gregory, and Marianella Rydzewski. MS CIT Capstone defended in Fall 2014.
- **"Benefit of a Cloud Based Solution for a Non-Profit Healthcare Practice"**
  Jacquelyn Gagnon, Sophia Gray, Matthew Joska, and Trung Phung. MS CIT Capstone defended in Spring 2014.
- **"The Cost of Computer Security"**
  Anhor Salih. Undergraduate Honors thesis in Computer Science defended Spring 2014.
- **"Benefit of a Cloud Based Solution for a Non-Profit Healthcare Practice"**
  Jacquelyn Gagnon, Sophia Gray, Matthew Joska, and Trung Phung. MS CIT Capstone defended in Spring 2014.
- **"Student Information System"**
  Veekija Thirumalai, and Anupama Karumudi. MS CIT Capstone defended in Spring 2013.
- **"Enterprise Resource Planning: Design and Development of a User-Centered Business Solution"**
  Joshua Flewelling, Sarah Mangiafico, and Andres Trujillo. MS CIT Capstone defended in Spring 2013.
- **"Location-Smart Personal Organizer"**
  Jisna Mathew, and Pragyan Rath. MS CIT Capstone defended in Summer 2012.
- **Undergraduate Student Projects Supervised (selected)**
  - **"Developing Algorithms for Diverse Recommendations"**
    Nilay Bhatt. Poster presented at the Twelfth Annual Consortium for Computing Sciences in Colleges Northeastern Conference, April 2017.
  - **"ECG's as Emerging Biometric"**
    Dylan Cruz. Poster presented at CCSU's University Research and Creative Achievement Program (URCAP) 2015.

- **High School Student Projects Supervised (selected)**
  - **"Ensemble Algorithms for Detecting Cyber Attacks"**
    Harini Sridhar. Independent research with Conard High School student, Fall 2023.

  - **"A Supervised Learning Approach to Attack Detection"**
    Sayada Arouna. Farmington High School Capstone research project, Fall 2022-Spring 2023, poster presented at CCSU's 2023 Cybersecurity Showcase.

  - **"Detecting Network Attacks Using Weka"**
    Kiera Stelly. Canton High School Capstone research project, Fall 2022.

  - **"A Machine Learning Approach to Malware Detection"**
    Natalia Kusmirek. Farmington High School Capstone research project, Summer-Fall 2022, poster presented at CCSU's 2023 Cybersecurity Showcase.

  - **"Improving Intrusion Detection Systems Effectiveness Against Unclassified Attacks Using Weka"**
    Ethan Schneider. Research paper published in the Newington High School's *Journal of Advanced Research Mentorship*. Poster presented at Newington High School's 6th annual STEMposium, May 2019.

SELECTED INVITED TALKS AND PRESENTATIONS

- **"Making Cryptography Fun And Engaging,"** talk presented at Connecticut Computer Science Teachers Association (CTCSTA), February 2022.
- **"Mobile Context Awareness,"** talk presented at DePaul University, November 2013.
- **"Attribute Constrained Rules: A New Approach for Missing Traveler Data,"** talk presented at University of Illinois at Chicago, Department of Computer Science Colloquium, July 2009.
- **"Learning Travel Patterns of Individuals,"** talk presented at University of Illinois at Chicago, IGERT Seminar Series, January 2009.
- **"Computational Transportation Science: An Interdisciplinary Approach to Integrating Emerging Technologies into Transportation,"** by Chad A. Williams, Ouri Wolfson and Peter C. Nelson, Poster presented at 2008 NSF IGERT Project Meeting, Arlington, Virginia, May 2008.
- **"Quickly Learning Activity and Travel Patterns of Individuals: Transfer Learning for Individual Travel Behavior Prediction,"** talk presented at University of Illinois at Chicago, IGERT Seminar Series, February 2008.

CONFERENCES – ORGANIZING

- **Program committee member,** The ACM Special Interest Group on Computer Science Education (SIGCSE) 2025 Technical Symposium, Papers - Computer and Education Research, 2025.
- **Program committee member,** The ACM Special Interest Group on Computer Science Education (SIGCSE) 2024 Technical Symposium, Papers - Computer and Education Research, 2024.
- **Program committee member,** The ACM Special Interest Group on Computer Science Education (SIGCSE) 2023 Technical Symposium, Special Track on Position and Curricula Initiatives, 2023.
- **Program committee member,** The ACM Special Interest Group on Computer Science Education (SIGCSE) 2023 Technical Symposium, Special Track on Nifty Assignments,

2023.
- **Program committee member,** The 33rd International FLAIRS Conference, Special Track on Recommender Systems, 2020.
- **Program committee member,** The 29th International FLAIRS Conference, Special Track on Recommender Systems, 2016.
- **Program committee member,** The 28th International FLAIRS Conference, Special Track on Recommender Systems, 2015.

PEER REVIEWING – REFEREED JOURNALS AND CONFERENCES
- Journal of *Transactions on Dependable and Secure Computing*
- Journal of *ACM Transactions on the Web*
- Journal of *Communications of the ACM*
- *INFORMS Journal on Computing*
- Journal of *Transportation Research Part C*
- *Journal of Transportation Letters*
- *Journal of Intelligent Transportation and Urban Planning*
- *ACM Inroads*
- *ACM SIGCSE Special Interest Group on Computer Science Education Technical Symposium*
- *ACM SIGKDD Conference on Knowledge Discovery and Data Mining*
- *ACM RecSys Conference on Recommender Systems*

COURSES TAUGHT

CENTRAL CONNECTICUT STATE UNIVERSITY (2011 – PRESENT)
- CS 110 – Introduction to Internet Programming
- CS 113 – Introduction to Computers
- CS 152 – Computer Science II
- CS 407 – Advanced Topics: Design Patterns *
- CS 407 – Advanced Topics: Principles of Software Testing and Quality Assurance *
- CS 407 – Advanced Topics: Web Programming *
- CS 410 – Software Engineering
- CS 416 – Web Programming *
- CS 417 – Design Patterns *
- CS 418 – Principles of Software Testing and Quality Assurance *
- CS 460 – Database Concepts
- CS 490 – Computer Communications Networks & Distributed Processing
- CS 492 – Computer Security
- CS 493 – Secure Software Systems *
- CS 493 – Secure Software Designs *
- CS 495 - Legal, Social, Ethical, and Economic Issues in Computing
- CS 502 - Computing and Communications Technology
- CS 505 – Design Patterns *
- CS 506 – Software Testing and Quality Assurance *
- CS 510 – Fundamentals of Software Engineering
- CS 540 – CS Topics in Cybersecurity: Advanced Secure Software Designs*

- CS 580 – Topics in Database Systems and Applications
- CS 592 – Advanced Computer Security*

Indicates courses I created

BEMIDJI STATE UNIVERSITY (2010-2011)
- CS 1309 – Problem Solving and Computer Science
- CS 2260 – Linux Systems Programming
- CS 3360 – Object Oriented Software Development
- CS 4361 – Software Engineering I
- CS 4362 – Software Engineering II

UNIVERSITY OF ILLINOIS AT CHICAGO (2006)
- CS 440 – Introduction to Software Engineering

SERVICE ACTIVITIES

CENTRAL CONNECTICUT STATE UNIVERSITY
- Point of Contact, Central's Cybersecurity Center - A National Center for Academic Excellence in Cybersecurity
- Chair, Computer Science Department (2019-present)
- Cybersecurity BS program co-coordinator (2018-present)
- Computer Science Department assessment coordinator (2017-2023)
- Computer Science Club advisor (2011 – present)
  - Won CCSU Student Activity & Leadership Development award for "Advisor of the Year"
  - Won CCSU Student Activity & Leadership Development award for "Outstanding New Organization of the Year"
- Cybersecurity Club advisor (2019 – present)
- Organizer and presenter at STEM Journal Club session – "Leveraging Student Creativity in STEM Learning", February 2022.
- Member of Academic Commission for eSports Gaming Center (2019-present)
- Member of School of Engineering Science and Technology, Dean's Scholarship Committee (2019-present)
- Presenter at Junior Achievement Career Days and Special Topics (2020, 2021, 2022)
- Advisor for 3 CCSU teams competing in UConn cybersecurity Cyberseed competition (2019)
- Advisor for CCSU SEST students competing in national cybersecurity competition Cyber Fastrack (2019)
  - CCSU ranked #1 in Connecticut (29 universities and colleges participated), and #3 nation-wide
- Organizer for CCSU's Hackathon (2017 – present)
- Organizer for CCSU's Hour of Code (2011 – present)
- Conduct resume workshops and mock interviews for Computer Science majors twice a year (2011-present)
- CS Youth Outreach advisor (2016 – present)
  - Collaboration with New Britain's Sisters In Science 2016-2017
  - Collaboration with Random Hacks of Kindness, Jr. 2018-present

- Computer Science Department curriculum committee (2011 – present)
- Computer Science Department assessment committee (2011 – present)
- Computer Science Department graduating senior exit survey coordinator (2013 – present)
- App Development Club advisor (2017 – 2019)
- Faculty Advisor or Coordinator for Case Competitions
  - The Hartford Campus Case Competition
    - Informally advised separate winning teams in 2012 and 2013
  - Travelers IT Case Competition
    - Informally advised a 2014 team
  - OPTUM Healthcare Innovation Teams Student IT Challenge 2015
- Faculty Programming Competition Team Advisor
  - Consortium for Computing Sciences in Colleges — Northeastern Region competition 2014
  - Consortium for Computing Sciences in Colleges — Northeastern Region competition 2016
- Conducted workshops with Farmington Public Schools teaching elementary and middle school students algorithmic thinking, programming, and web page development
- Faculty chaperone for students to the IEEE Women In Engineering Forum East 2023 in Pittsburgh, PA.
- Faculty chaperone for students presenting research at SIGCSE conference in Kansas City, MO 2015
- CCSU Curriculum Committee representative (2012 – 2019)
- CCSU Curriculum Interdisciplinary Subcommittee (2018-2019)
- CCSU SEST Curriculum Sub-committee representative (2014 – 2019)
  - Secretary (2017-2019)
- CCSU CLASS Curriculum Sub-committee representative (2012 – 2014)
- CCSU Information Technology Committee (2015 – 2017)
  - Chair of committee 2016-2017
  - Vice-chair of committee 2015-2016
- CCSU Faculty Senate, member (2012 – 2018)
- CCSU Senate Elections Committee (2012 – 2015)
- Computer Science Department AAUP Representative (2011 – 2014)

BEMIDJI STATE UNIVERSITY
- BSU Honors Council (2010 – 2011)
- Advisor for the Computer Science Club (2010 – 2011)