Christopher Mansour, Ph.D.

Founding Member & Chair, Computing & Information Science Department
Assistant Professor of Cyber Security
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Experience

Mercyhurst University   *Erie, PA*
Chair, Computing & Information Science Department   *June 2023 - Present*

- Handle day-to-day administrative tasks such as scheduling and performance reviews.
- Set the department's strategic goals and priorities in line with the university's mission and vision.
- Oversee the development and continual improvement of undergraduate and graduate curricula.
- Serve on various university committees to represent the interests of the department.
- Oversee advising, mentorship, and career advice for students.
- Engage in outreach activities to promote the department and foster partnerships with industry and other academic institutions.

Mercyhurst University   *Erie, PA*
Assistant Professor of Cybersecurity   *July 2018 - Present*

- **Founded the undergraduate and graduate programs of Cybersecurity.**
- Research Scholar in the areas of Next Generation Networks Security and Critical Infrastructure
- Proposed multiple advanced courses in Cybersecurity such as Cloud and Web security as well as Penetration Testing and Ethical Hacking.
- Proposed an interdisciplinary course on Cyber Threat Intelligence.
- Proposed the development of a strategic graduate certificate in Strategic Risk Managment.
- Played a major role in student recruitment strategies, including outreach programs, campus visits, and open houses in collaboration with the University Admissions Office.
- Increased enrollment in the department by **75%**.
- Visited high schools in person and virtually to discuss Cybersecurity and recruit students.
- Coordinated and participated in orientation sessions for incoming students to introduce them to department resources, faculty, and course requirements.
- Public Speaker/ Panelist/ Workshop Facilitator/ Cybersecurity Awareness Advocate.
- Local Media/News Consultant for Cyber Security awareness, workshops, and discussions.
- Represented Mercyhurst in multiple table top Cyber exercises organized by the DoD and US Coast Guard and other international organizations

Villanova University   *Villanova, PA*
Visiting Research Scholar   *May 2018 - June 2018*

- Conducted research in the areas of Cyber Security, Networks Security, Software Defined Networks and Software Engineering

Villanova University   *Villanova, PA*
Graduate Assistant & Doctoral Research Candidate   *Aug 2012 - May 2018*

- Conducted research in the areas of Cyber Security, Networks Security, Software Defined Networks and Software Engineering

Lilly Pulitzer *King of Prusia, PA*

Progressive Web Apps Developer *May 2017 - Aug 2017*

- Research and development in the field of progressive web application technologies (ClojureScript, React, Babel, React-Native, Reagent, Re-Natal)
- Built a demo web application using ClojureScript and Reagent
- Built an iOS and Android mobile demo applications based on ClojureScript, Reagent, and React-Native
- Maintained and modified a Node JS based Middleware between the web application and the iOS mobile app
- Maintained the Web Application (Frontend/Backend)

iBS Soft Solutions *Beirut, Lebanon*

Software Engineering/Full Stack Developer *Feb 2012 - Aug 2012*

- Software development of intelligent business solutions for CVS Caremark, USA
- Maintenance of the Web Applications built and implementing new features upon request

OGERO Telecommunications *Beirut, Lebanon*

Telecommunications Engineering Intern *June 2010 - September 2010*

- Maintenance and programming of the Siemens switching systems present in the exchange
- Designed and built a public switched telephone network for a sector in Beirut city

Education

Ph.D. in Engineering **Villanova University**

Department of Electrical and Computer Engineering *Sept 2014 - May 2018*

- *GPA: 3.96/4.0*
- *Dissertation Title: Trust and Reliability for Next Generation Networks: A Layered Approach. Committee Memvers:*

  - Dr. Danai Chasaki, Associate Professor, Department of Electrical and Computer Engineering, Villanova University
  - Dr. Richard Perry, Associate Professor, Department of Electrical and Computer Engineering, Villanova University
  - Dr. James Solderitsch, Research Professor, Department of Electrical and Computer Engineering, Villanova University
  - Dr. Sriram Natarajan, Network Engineering, Google, Inc.

Teaching Engineering in Higher Education Certificate **Villanova University**

College of Engineering *Decemeber 2017*

- *Certificate program For College of Engineering Students Interested in Higher Education*

MS degree in Computer Engineering **Villanova University**

Department of Electrical and Computer Engineering *August 2012 - September 2014*

- *GPA: 4.0/4.0*
- *Thesis title: Trading Off Security and Power in Smart Devices for the Internet of Things*

Certificate in Cybersecurity **Villanova University**

Department of Electrical and Computer Engineering *September 2014*

- *A Five course graduate certificate program on Cybersecurity covering the major security areas related to the Internet, telecommunications networks, computer systems, and embedded processors and controllers in critical infrastructure and industries.*

BS degree in Computers & Communications Engineering **American University of Science & Technology (AUST)**

School of Engineering   *September 2008 - Februray 2012*

- *GPA: 3.92/4.0*
- *Thesis Title: Real-Time Application of ADM and DPCM Communication Systems.*

CISCO Certified Network Associate (AUST) **American University of Science & Technology**

School of Engineering   *Februray 2010*

- *CISCO Discovery Tracks one through four*

Teaching at Mercyhurst University

CIS 100	Introduction to Computer Science - [Intro-Level]
CIS 160	Introduction to Cybersecurity - [Intro-Level]
CIS 200	Linear Data Structures - [Mid-Level]
CIS 230	Operating Systems - [Mid-Level]
CIS 261	Information Security - [Mid-Level]
CIS 360	Computer Systems Security - [Upper-Level]
CIS 361	Networks Security - [Upper-Level]
CIS 365	Cybersecurity Law and Policy - [Upper-Level]
CIS 500	Computing and Information Science - [Grad-Level]
CIS 502	Penetration Testing - [Grad-Level]
CIS 510	Algorithm Development - [Grad-Level]
CIS 560	Cyber Networks - [Grad-Level]
CIS 565	Systems and Applications Security - [Grad-Level]
CIS 566	Mobile and Cloud Security - [Upper-Level]

Guest Lectures

Faculty Development Days **Mercyhurst University**
Guest Lecturer   *August 2023*

- *Presented a lecture titled: "Navigating the AI Frontiers: Optimizing the Use of AI/ChatGPT in Higher Ed" which discusses the challenges of incorporating AI tools such as ChatGPT into classes while ensuring academic integrity, and how we can prepare as educators for a future where AI is a staple.*

Mercyhurst's National Security Club **Mercyhurst University**
Guest Lecturer   *March 2023*

- *Presented a lecture discussing Cyber Threat Intelligence and its importance for National Security*

Center for Teaching Excellence **Mercyhurst University**
Guest Panelist   *January 2023*

- *Presented a talk on Invisible Diversities particularly discussing the International Students experience in the US academic institutions*

Employee Professional Development **Mercyhurst University**
Guest Panelist   *January 2023*

- *Participated on a panel titled: "Want Grant Funding? Hell Yeah .. Well No" which discusses the tradeoffs encountered when seeking grant funding.*

Center for Teaching Excellence **Mercyhurst University**
Guest Panelist *October 2022*

- *Served on a panel to discuss being a subject matter expert for the media*

Diversity, Inclusion, Equity, and Justice **Mercyhurst University**
Guest Speaker *October 2022*

- *Presented a talk on Invisible Diversities particularly discussing the International Students experience in the US academic institutions*

Mercyhurst's Cybersecurity Club **Mercyhurst University**
Guest Lecturer *April 2022*

- *Presented a lecture discussing Stuxnet the first malware to affect industrial control systems*

Employee Professional Devlelopment **Mercyhurst University**
Guest Lecturer *January 2022*

- *Presented a lecture titled: "Staying Healthy in the Digital World" a lecture discussing how the digital world is affecting or can affect us without us knowing and how to care about our well-being in cyber space*

Academic Support Retreat **Mercyhurst University**
Guest Lecturer *April 2021*

- *Presented a lecture titled: "Mindfulness in Cyberspace"*

Center for Teaching Excellence **Mercyhurst University**
Guest Lecturer *April 2021*

- *Presented a lecture titled: "Staying Safe in Cyberspace during a Pandemic"*

Employee Professional Development **Mercyhurst University**
Guest Lecturer *January 2021*

- *Presented a lecture titled: "Staying Safe in Cyberspace: A COVID Theme"*

Office of Alumni Engagement **Mercyhurst University**
Online Guest Lecturer *November 2020*

- *Presented an evening workshop on cybersecurity and cyber hygiene to a group of Mercyhurst alums.*

Department of Computer and Communications Engineering **AUST University**
Online Guest Lecturer *August 2019*

- *Presented four different lectures on General Cyber Security, Encryption, Cryptography and Networks Security.*

Intelligence Studies Department **Mercyhurst University**
Guest Lecturer *Spring Term of 2019*

- *Presented a lecture about multiple aspects of Cyber Security in a Cyber Self Defense course which covers basics Cyber Hygiene.*

College of Engineering **Villanova University**
Guest Lecturer *February 2018*

- *Presented a lecture explaining the approaches and methods to foster creativity in engineering education and its role in the engineering curriculum.*

Department of Electrical and Computer Engineering   **Villanova University**
Guest Lecturer   *February 2018*

- *Presented lectures on Software Security, Cryptography and Networks Security, C++, Algorithms and Data Structures for a senior level class*

Scholarship - Recent and Ongoing Research

Current Scholarship
Utilizing Edge Machine Learning for Advance Security Monitoring

- Unlike traditional centralized models, edge machine learning allows us to process data on local devices, thereby reducing latency and bandwidth usage while enhancing data privacy. By employing such decentralized approaches, this research aims to develop real-time anomaly detection and threat identification systems that are both scalable and robust, capable of adapting to the ever-evolving landscape of cyber threats.

Recent Scholarship
Designing Monitoring Security Systems to Secure Next-Gen Cyber Networks

- Addressing Cyber Security Threats for Elections using Machine Learning to Protect Democracies - research, investigating different machine learning techniques in order to prevent potential cyber attacks against election infrastructure and ecosystems to preserve the election's integrity and trustworthines
- Malware Analysis and Detection for Mobile Devices and Mobile Operating Systems - research conducted to analyze several datasets obtained from Android devices (anonymized to preserve the privacy of the user's information) to check certain attributes that can help detect malicious applications running in the background while acting benign from the user perspective
- Design of an SDN Security Framework for Virtual Hosts Based On Power Detection and Machine Learning - research proposing the design and implementation of an SDN security framework that helps in the detection of failures and malicious activities that target virtual network nodes.
- Establishing Trust and Reliability for Next Generation Networks Through a Layered Approach - research resulted in the design and implementation of a multi-layer security mechanism which addresses the data plane layer security, OS/firmware layer security, and application/control layer security
- Design of a Multi-layer Security Mechanism for Embedded Systems - research proposing a security framework to establish reliability and trust in embedded systems and smart networks
- Hardware Monitoring System for Network Processors - research resulted in the design and implementation of a fault-tolerant and reliable monitoring subsystem with an integrity checking mechanism. The monitor aids in the detection of attacks and other malicious activities based on the instruction execution flow and restores the forwarding elements securely to a functional equivalent state
- Power Monitoring System for Network Processors and Modern Routers - research proposing the design of a black-box monitoring technique that monitors the power consumption of the modular elements/functions of the networking processors at the OS/firmware layer. The proposed design is able to infer a normal activity and detect other faulty and malicious activities based on power consumption monitoring
- Security Challenges for the Internet of Things - research surveying the possible threats that can threaten the trustworthiness and performance of Internet of Things devices

- Security of Smart Grids and Advanced Metering Infrastructure - research looking into the security concerns of the Advanced Metering Infrastructure (AMI) in order to address this major component of Smart Grids

Scholarship - Peer Reviewed Publications

Submitted Work
Submitted and Awaiting Decision
- "PASTA Threat Modeling for Vehicular Networks Security" - Submitted
- "Security Monitoring for VANETs Using Machine Learning" - Submitted

Published Work
Published in Peer Reviewed Journals and Conference Proceedings
- N. Pape and **C. Mansour**, "Edge Machine Learning to Detect Malicious Activity in IoT Devices through System Calls and Traffic Analysis," 2023 International Conference On Cyber Management And Engineering (CyMaEn), Bangkok, Thailand, 2023, pp. 123-127, doi: 10.1109/CyMaEn57228.2023.10051091.
- D. Chasaki and **C. Mansour**, "Detecting Malicious Hosts in SDN through System Call Learning," IEEE INFOCOM 2021 - IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS), Vancouver, BC, Canada, 2021, pp. 1-2
- D. Chasaki and **C. Mansour**, "SDN Security through System Call Learning," 2021 11th IFIP International Conference on New Technologies, Mobility and Security (NTMS), Paris, France, 2021, pp. 1-6, doi: 10.1109/NTMS49979.2021.9432640.
- Chasaki, D., & **Mansour, C.** (2020, February). Improving Efficiency in Attack Detection through Real-time Processing Monitoring and Machine Learning. In 2020 International Conference on Computing, Networking and Communications (ICNC) (pp. 145-151). IEEE. (Presenter)
- **Mansour, Christopher**, and Danai Chasaki. "Adaptive security monitoring for next-generation routers." EURASIP Journal on Embedded Systems 2019.1 (2019): 1.
- **Mansour, C.** (2018). Trust and Reliability for Next-Generation Networks: A Layered Approach. Villanova University.
- **C. Mansour** and D. Chasaki, "Design of an SDN Security Mechanism to Detect Malicious Activities," 2018 Tenth International Conference on Ubiquitous and Future Networks. ICUFN 2018 (pp. 186-190). IEEE.
- **C. Mansour** and D. Chadaki, "Multi-layer Security Mechanism for Networked Embedded Devices," 2017 International Conference on Ubiquitous Computing and Ambient Intelligence. UCAmI 2017. Lecture Notes in Computer Science, vol 10586. Springer, Cham (Presenter)
- **C. Mansour** and D. Chasaki, "Real-time attack and failure detection for next generation networks," 2017 International Conference on Computing, Networking and Communications (ICNC), Santa Clara, CA, 2017, pp. 189-193. doi: 10.1109/ICCNC.2017.7876125 (Presenter)
- **C. Mansour** and D. Chasaki, "Trust and reliability for next-generation routers," MILCOM 2016 - 2016 IEEE Military Communications Conference, Baltimore, MD, 2016, pp. 740-745. doi: 10.1109/MILCOM.2016.7795417 (Presenter)
- **C. Mansour** and D. Chasaki, "Power monitoring of highly parallel network processors," 2016 International Conference on Computing, Networking and Communications (ICNC), Kauai, HI, 2016, pp. 1-5. doi: 10.1109/ICCNC.2016.7440713
- **C. Mansour**, Y. E. H. Shehadeh and D. Chasaki, "Design of an adaptive security mechanism for modern routers," 2015 IEEE International Conference on Consumer Electronics (ICCE), Las Vegas, NV, 2015, pp. 241-244. doi: 10.1109/ICCE.2015.7066397 (Presenter)

- **Mansour, Christopher**, and Danai Chasaki. "Identifying Optimal Encryption Effort to Improve Battery Life in Mobile Wireless Devices." International Journal of Research in Wireless Systems 4.1 (2015).
- Chasaki, Danai, and **Christopher Mansour.** "Security challenges in the internet of things" International Journal of Space-Based and Situated Computing 5.3 (2015): 141-149.
- **C. Mansour** and D. Chasaki, "Power-aware selective encryption of video transmissions in smart devices," 2014 International Wireless Communications and Mobile Computing Conference (IWCMC), Nicosia, 2014, pp. 967-972. doi: 10.1109/IWCMC.2014.6906486
- **C. Mansour** and D. Chasaki, "Selective encryption of video transmissions over multi-hop wireless networks," 2014 IEEE Symposium on Computers and Communications (ISCC), Funchal, 2014, pp. 1-5. doi: 10.1109/ISCC.2014.6912646
- **C. Mansour**, R. Achkar and G. A. Haidar, "Simulation of DPCM and ADM Systems," 2012 UKSim 14th International Conference on Computer Modelling and Simulation, Cambridge, 2012, pp. 416-421. doi: 10.1109/UKSim.2012.64
- R. Achkar, G. A. Haidar and **C. Mansour**, "Real-time application of DPCM and ADM systems," 2012 8th International Symposium on Communication Systems, Networks & Digital Signal Processing (CSNDSP), Poznan, 2012, pp. 1-6. doi: 10.1109/CSNDSP.2012.6292635

Scholarship - Speaker, Presenter and Panelist

International Conference on Cyber Management and Engineering *Thailand*
Virtual Presenter at the Cybersecurity Technologies Session *January 2023*

- *Presented a conference presentation titled: "Edge Machine Learning to Detect Malicious Activity in IoT Devices through System Calls and Traffic Analysis"*

Cybersecurity Symposium 2023 *Erie, PA*
Presenter alongside the US Coast Guard, US Secret Service and North West PA Group *July 2022*

- *Presented a conference presentation titled: "Securing Critical Infrastructure for Secure Smart Cities"*

Defense Urban Terrain (DUT) 2022 *Philadelphia, PA*
Presenter at the Conference *July 2022*

- *Presented a conference presentation titled: "Industrial Control Systems Security for Secure Smart Cities"*

CyberImpact 2022 *Buffalo, NY*
Table Top Cyber Exercise *March 2022*

- *Supervised the design of the scenarios to be discussed in the Table Top exercises*
- *Served as the red team coordinator performing injection attacks along two Mercyhurst Cybersecurity students*

CyberImpact 2022 *Buffalo, NY*
Panelist at the CyberThreats Targeting Critical Infrastructure Panel *March 2022*

- *Served as a panelist alongside an FBI agent, FEMA representative, DoD representatives discussing the different cyber attacks that could target critical infrastructure*

CyberImpact 2022 *Buffalo, NY*
Panelist at the CyberThreats Session *March 2022*

- *"Presented a conference presentation titled: "Industrial Control Systems Security A Survey"*

Higher Ed CERT JAM — *Online*
Panelist at the IT/OT Security Discussion — *August 2021*

- *Panelist alongside Dr. Bradford Sims, president of Capitol Technology University on an Educational Panel discussing Information Technology and Operational Technology security requirements.*

VIGNAN's NIRULA Institute of Technology and Science for Women — *India*
Presenter for the Department of Electronics and Communication Engineering — *July 2020*

- *"Securing Next Generation Networks" Webinar*

International Conference on Computing, Networking & Communications — *BigIsland, HI*
Presenter at the Workshop on Computing, Networking and Communications (CNC) — *February 2020*

- *Presented a conference presentation titled "Improving Efficiency in Attack Detection through Real-time Processing Monitoring and Machine Learning"*

Blockland Conference — *Cleveland, OH*
Presenter at the Cybersecurity for Executives Session — *December 2019*

- *Presented a talk titled "Cybertraining for Executives"*

Mercyhurst University — *Erie, PA*
Presenter at the Intelligence Community Forum — *June 2019*

- *Presented a talk titled: "From Cyber Risk to Cyber Secure"*

North West PA Cyber Work Group — *Erie, PA*
Presenter at the Cybersecurity Symposium — *April 2019*

- *Presented a talk titled: "Secure Yourself in Cyberspace"*

Villanova University — *Villanova, PA*
Presenter at the International Conference on Ubiquitous Computing & Intelligence — *November 2017*

- *Presented a conference presentation titled: "Multi-layer Security Mechanism for Networked Embedded Devices"*

International Conference on Computing, Networking & Communications — *Santa Clara, CA*
Presenter at the Network Algorithms and Performance Evaluation Track — *January 2017*

- *Presented a conference presentation titled: "Real-time Attack and Failure Detection for Next Generation Networks"*

IEEE Military Communications Conference MILCOM — *Baltimore, MD*
Presenter at the Network Protocol Security Track — *November 2016*

- *Presented a conference presentation titled: "Trust and Reliability for Next Generation Routers"*

International Symposium on Resilient Control Systems — *Philadelphia, PA*
Presenter at the RESWEEK Track — *August 2015*

- *Presented a conference presentation titled: "Packet Scheduling Attacks on Shipboard Networked Control Systems"*

International Conference on Consumer Electronics — *Las Vegas, NV*
Presenter at one of the conference sessions — *February 2015*

- *Presented a conference presentation titled: "Design of an Adaptive Security Mechanism for Modern Routers"*

Symposium on Advances in Computing, Communications, & Security   *Jeju, Korea*
Presnter at the conference   *April 2014*

- *Presented a conference presentation titled: "Security Challenges in the Internet of Things"*

Scholarship - Invited Talks

- Guest Speaker for Los Alamos National Labs presenting a presentation on Cyber Threats and Safety - Discussed multiple cyber security aspects at different levels

- Guest Speaker for the Communications Department at Mercyhurst University - Discussed the various security and privacy aspects when interacting with Social Media

- Guest Speaker for Dr. Ben Straight, the Associate Dean of Criminal Justice & Paralegal Studies at National American University's Henley-Putnam School of Strategic Security - Discussed the security concerns of Self-driving cars and Smart cities

- Guest Speaker for the Department of Computer and Communications Engineering, Zahle, Lebanon - Presented about how to establish trust and reliability for the next generation smart networks

- Guest Speaker and Presenter on CyberSecurity at the Erie Club, Erie, PA, USA - Discussing procedures and precautions to keep small to medium organizations safe from cyber attacks

- Guest Speaker and Presenter on CyberSecurity for Pennsylvania Municipal Authorities

- Guest Speaker and Presenter on CyberSecurity at the Rotary Club of Erie, Erie, PA, USA - Discussing procedures and precautions to keep small to medium organizations safe from cyber attacks

- Guest Speaker and Presenter on CyberSecurity at the Rotary Club of Buffalo, Buffalo, NY, USA - Discussing procedures and precautions to keep small to medium organizations safe from cyber attacks

- Guest Speaker and Presenter on CyberSecurity at the Rotary Club of Mentor, Mentor, OH, USA - Discussing procedures and precautions to keep small to medium organizations safe from cyber attacks

- Guest Speaker and Presenter on CyberSecurity at Duquesne Club, Pittsburgh, PA, USA - Discussing procedures and precautions to keep small to medium organizations safe from cyber attacks

Scholarship - Editorial Review

Below you can find the list of conference proceedings and academic journals on which I serve as a reviewer as well member of the editorial board

- **Assistant Editor** Cybersecurity Skills Journal

- Creative and Innovative Technology in Education

- International Conference on Industrial Control Networks and Systems Engineering

- International Conference on Computing Networks and Internet of Things

- International Conference on Advances in Satellite and Space Communications

- Journal of Computer Science and Engineering

- Journal of Telehealth and Digital Healthcare

- IEEE Access

- Transactions on Emerging Telecommunications Technologies
- International Journal of Communication Systems
- Journal of Applied Sciences
- International Conference on Computing, Networks and Internet of Things (CNIOT)
- International Conference on Advances in Computer Technology, Information Science and Communications (CTISC)
- International Conference on Advances in Computation, Communications and Services, (ACCSE)
- International Conference on Networks, (ICN)
- International Conference on Emerging Networks and Systems Intelligence, (EMERGING)
- IEEE International Symposium on Technology and Society (ISTAS)
- IEEE International Conference on Computing, Networking and Communications (ICNC)
- IEEE International Conference on Consumer Electronics (ICCE)
- Wireless Networks Security Symposium (WNSS)
- International Conference on Advances in Computation, Communications and Services
- International Conference on Emerging Networks and Systems Intelligence
- International Conference on Wireless Communications and Signal Processing (WCSP)
- Wireless Network Security Symposium (WNSS)
- Scientific Conference of Computer Sciences (SCCS)
- International Conference on Network, Communication and Computing (ICNCC)

Scholarship - Panels and Workshops

Below you can find the list of Panels I served on and Workshops I facilitated

- Workshop Facilitator and Presenter
  - "Table Top Cyber Exercise" organized by DoD, FBI, FEMA, and US Coast Guard (2022)
  - "The Cyber Security Workshop" organized by Erie Regional Chamber & Growth Partnership and hosted by Jefferson Educational Society, Erie, PA, USA (2019)
  - "From Cyber Risk to Cyber Secure" pilot workshop for executives and board of trustees members at MCPc Inc., Cleveland, OH, USA (2019)
- Panelist
  - Round Table Discussion Participant at "US-Czech Cybersecurity Forum" hosted by the Czech Republic Embassy in Washington, DC, April 2023
  - Panelist on the "CyberThreats Targeting Critical Infrastructure" panel at CyberImpact 2022, Buffalo, NY
  - Panelist on the "Higher Ed CERT JAM" - online panel
  - Panelist on the "Academics in Action: Election Security" at Mercyhurst University
  - Panelist on the "Cyber Training for Executives" at Blockland 2019

- Panelist on the "Intelligence Community Forum - Cyber Track", Erie, PA, USA

- Panelist on the "North Western Pennsylvania Cyber Security Symposium", Erie, PA, USA

- Panel Chair

  - Panel Chair for the "Cyber Security Panel" at the "Intelligence Community Forum, 2019", Erie, PA, USA

  - Panel Chair for the "Information Management Panel" at the "Intelligence Community Forum, 2019", Erie, PA, USA

Scholarship - Grant Work

Below you can find the list of Grants I authored/coauthored

- Statler Foundation Grant - Cybersecurity in Hospitality Industry - Co-Principal Investigator

  - Awarded $50,000

  - Sessions on developing micro-credential for hospitality management experts to learn more about Cybersecurity as it applies to the hospitality industry

- GenCyber - Principal Investigator

  - GenCyber is a national program that provides cybersecurity experiences for students and teachers at the K-12 level

  - The program is funded by the National Science Foundation (NSF) and the National Security Agency (NSA).

  - Developed programs and plans to:

    * Raising awareness of cybersecurity and career opportunities

    * Increasing student diversity in cybersecurity colleges

    * Encouraging interest and diversity in cybersecurity postsecondary education and workforce opportunities

    * Increasing cybersecurity awareness among high school students

- NSF Scholarship For Service CyberCorps - Principal Investigator

  - Grant that provides scholarships to students in cybersecurity or related fields.

  - The program is funded by the National Science Foundation (NSF)

  - Developed programs and plans to recruit and preserve student retention for the program

- NSF Proposal - Co Principal Investigator

  - Secure and Smart Erie

  - Proposing plans to have Erie a testbed for a Smart City in Collaboration with Erie Innovation District

- NSF Proposal - Co Principal Investigator

  - Security for Next Generation Embedded Systems

  - Proposing monitoring systems to secure networked embedded systems

In the Media

National and International News
List of Media Mentions, Quotes and Appearances at the national and international level

- *"How Higher Ed Is Answering the Cybersecurity Challenge", A case study between* **Dell and the Chronicle of Higher Education** *on how higher ed is addressing the Cybersecurity Challenges -* *Click Here to Access*

- *"More false reports of shooters spreading through schools, hospitals: A cybersecurity expert says false reports of crime, called "swatting," are putting people in danger"* **Scripps News and The Bristol Herald Courier** *- Click Here to Access*

- *"Providing Cutting Intelligence and Cybersecurity Education For Today's Business World" an article published by* **"Manufacturer & Business Association - Business Magazine"** *which serves as a critical information tool for employers located throughout northwest Pennsylvania, Ohio and New York - Click Here to Access*

- *"Task Force 46 Leads Cyber Impact 2022 Exercise" an article published by the* **US Army News site** *and can be found at: Click Here*

- *"Task Force 46 Leads Cyber Impact 2022 Exercise" an article published in* **"The Dragon Magazine"** *a publication by the* **Military Police Regimental Association** *and can be found Here*

Local News
Recognized as the primary cybersecurity authority for local media outlets, providing insights and commentary on recent threats, incidents, and best practices. Conducted numerous key interviews with major channels and publications, offering expert analysis on high-profile cybersecurity events and emerging trends. Below is a non-exhaustive list of Media Mentions, and Appearances at the local level:

- Discussed AI and its impacts on society, Social Media and its utilization in Doxing and in Cyber Attacks, Critical Infrastructure Security, and Swatting on multiple occasions with local news.
- Guest at "The Joel Natalie" show on TalkErie.com/WCTL Radio - Attacks, Social Media and Ransomeware discussion during Cyberawareness Month (Oct 2020)
- Research for a Special Report for Joe Curtis, meteorologist from Erie News Now, on the Effects of 5G on Weather Prediction and Forecasting
- Numerous media appearances and interviews discussing cyber-saftey in the era of COVID-19 and remote working (abc JET24, yourerie.com, and WICU Erie News Now)
- Guest at "Digital Exclusive - This Week in Erie" show on abc "JET24 News" - A 25-30 minutes episode discussing cyber security hygiene and Mercyhurst's cyber security program and what it has to offer
- Guest at "Digital Exclusive - Cyber Bullying" show on abc "JET24 News" - Discussing how cyber bullying occurs and the potential negative impacts it has on our society
- Guest at "The Insider Show" with Lisa Adams on CBS WSEE/WICU - Discussing tips and strategies to protecting ourselves and our businesses from cyber attacks and the cyber security program that Mercyhurst has to offer
- Guest at "The Joel Natalie" show on TalkErie.com/WCTL Radio - Discussing tips and strategies to protecting ourselves and our businesses from cyber attacks and the cyber security program that Mercyhurst has to offer
- Guest at "We Question & Learn" show on NPR WQLN Radio - Discussing tips and strategies to protecting ourselves and our businesses from cyber attacks and the cyber security program that Mercyhurst has to offer
- Numerous appearances on abc "JET24 News" commenting on Cyber Security incidents
- Numerous appearances on CBS WSEE/WICU "Erie News Now" commenting on Cyber Security incidents

Professional Service

- Technical Program Committee Member for the International Conference on Emerging Networks and Systems Intelligence, (EMERGING 2018, 2019, 2020, 2021, 2022, 2023)

- Technical Program Committee Member for the International Conference on Networks, (ICN 2018, 2019, 2020, 2021, 2022, 2023)

- Technical Program Committee Member for the International Conference on Advances in Computation, Communications and Services, (ACCSE 2019, 2020, 2021, 2022)

- Technical Program Committee Member for the International Conference on Computing, Networks and Internet of Things

- Technical Program Committee Member for International Conference on Advances in Computer Technology, Information Science and Communications

- Session Chair for the Communications and Information Security Track at the International Conference on Computing, Networking and Communications (ICNC), Hawai, USA, 2020

- Technical Program Committee Member for The International Conference On Industrial Control Network And System Engineering Research (ICNSER)

- Technical Program Committee Member for The International Conference on Networks Security, (ICNS 2020)

- Technical Program Committee Member for International Conference on Networks Communications and Computing (ICNCC 2019, 2020)

- Technical Program Committee Member for IEEE International Symposium on Technology and Society (ISTAS 2019) – Technology, Sustainable Development and Ethics

- Technical Program Committee Member for the International Conference on Internet of Things and Systems Engineering (ACM-IoTSE2019)

- Technical Program Committee Member for the Second Conference on Computer Sciences (SCCS, 2019)

- Volunteer organizer assisting in the Ubiquitous Computing and Ambient Intelligence Conference (UCAmI 2017)

- Volunteer organizer assisting in the Mid-Atlantic American Society for Engineering Education Conference, Villanova University

Institutional Service - Mercyhurst University

- Academic Initiatives

  - Founder and developer of the Cyber Security Programs at both the undergraduate and graduate levels offering BS and MS degrees respectively - Programs that are Falgship programs at Mercyhurst University

  - Proposed a Graduate Certificate in Strategic Risk Management - Currently Under Review

  - Proposed a Flagship course "Cyber Threat Intelligence" in partnership with the Intelligence Studies Program

  - Proposed a Microcredential for Cybersecurity in Hospitality Industry - turned into a grant proposal resulting in a $50,000 award from The Statler Foundation

- Established a partnership with Ec-Council a globally recognized leader in cyber security education, training, and certification offering heavily discounted certification access to students demonstrating commitment to their career readiness

- Obtained successfully, from the "International Information System Security Certification Consortium (ISC)2", multiple awards for Mercyhurst Cybersecurity students who would want to be certified in cybersecurity

- Admissions Services

  - Facilitator for numerous admissions events and campus visits:

    * Days in Cyber Security and Intelligence Studies

    * Days in Computing and Information Science

    * Numerous bus trips per year from neighboring high schools

    * Admitted Students Day

    * Accepted Students Day

    * University Open Houses

  - Panelist on the "Academic Programs Faculty Panels" during university open house events discussing both the Cyber Security and Data Science Programs

  - Designated person for admissions and recruitment for the Computing and Information Science department

  - Department representative for all major "Laker Launch Days"

  - Designated representative for Ridge College and Computing and Information Science Department during Parents Information Sessions

  - Guest on multiple "Faculty Fridays" events promoting Mercyhurst University and the programs offered

  - Guest on multiple "Program Spotlights" events promoting Mercyhurst University and the programs offered

  - Facilitated numerous "Virtual Campus Visits" talking to students about the Cyber Security and Data Science programs

  - Visiting high schools in the are to talk to students about Cyber Security and Data Science programs and increasing interest the Computing programs at Mercyhurst University

  - Reviewer of multiple transfer applications

- Faculty Senate Committees

  - Mercyhurst's Academic Planning and Assessment Committee (**3 years of Service**)

  - Mercyhurst's Faculty Affairs Committee (**1 year of service**)

  - Mercyhurst's Rank and Tenure – Ad Hoc Tech Committee (**1 year of service**)

  - Mercyhurst's Faculty Development Committee (**1 year of service**)

  - Mercyhurst's Reorganization Committee

- Computing and Information Science Department Level Services:

  - Department representative for major admissions events and "Majors and Minors Fair"

- – Workshop organizer and facilitator
- – Faculty Search Committees
  - * Chair for the Cyber Security Search Committee
  - * Chair for the Data Science Search Committee
  - * Chair for the Computer Science Search Committee
- – Mercyhurst's ACM Chapter Founder/Adviser
- – Mercyhurst's CIS Weekly Research Seminars Organizer
- – Hosting multiple speakers giving talks about their work in academia, industry and government
- School/College Level Committees
  - – Ridge College Recruitment Committee
  - – BeeHive and CIRAT assistance when needed - attending all BeeHive Yearly Events
- Alumni Outreach
  - – Guest Lecturer and presenter during homecoming weekends, re-union weekends and other virtual sessions
  - – Guest for the "Lunch With Lakers" series started by Ryan Palm, Associate Vice President, Advancement
- Mercyhurst's AIM Program
  - – Developed and taught a two day Cybersecurity series for CREATE AIM Program
  - – Participated in the development of a Recorded Lecture that addresses Supporting Students on the Autism Spectrum in Higher Education
- Mercyhurst's University Presidential Search Committee
  - – Member of the faculty constituents for Mercyhurst's Presidential Search Committee
- Mercyhurst COVID-19 Task Force
  - – Assisted in brainstorming ideas and strategies to combat COVID-19 from academic perspective
  - – Facilitated the Ed Tech Tools Workshop on how to use Zoom, Screen Cast O-Matic and linking videos to Blackboard
  - – On Demand one-on-one sessions with various faculty members seeking assistance
  - – Establishing classrooms capacity in classes and computer labs to maintain social distancing
- Mercyhurst Keep Teaching Committee
  - – Technical support for faculty members during transition from in-person teaching settings to remote teaching settings
  - – Offered multiple office hour sessions per week to support faculty members with technical questions
  - – On Demand one-on-one sessions with various faculty members seeking assistance
- Mercyhurst's Organizer and Facilitator of "Hurst Secures - Cyber Weekend"
  - – Designed, organized, and facilitated multiple cyber security activities and workshops for high school students from Erie School District

- Mercyhurst's Employee Professional Development Day Committee
  - Participated in the organization of sessions and subject matter to be presented
  - Presented a Cyber Security workshop offering advise on being safe in Cyberspace
- Other University Services
  - McAllister and Quinn meeting participant to discuss grants - translated into a summer of weekly meetings working on a major grant proposal
  - Oak Ridge Associated Universities (ORAU) Virtual Tour Presenter
  - Vaccination Clinics Volunteer
  - Strategic Planning Focus group participant
  - MSCHE Site Visit participant
- Mercyhurst's Northeast Transition Planning – Honors and Prestigious Awards Committee
  - Drafted alongside the University Archivist, and Dr. Justin Ross Director of the Honors Program an initial proposal for an honors version of iMU

Outside Institutional Service

- Mentor for "Villanova Career Compass Mentoring Program" a professional development program at Villanova University that helps engineering students develop leadership and management skills
- Judging Committee for Sigma Xi Undergraduate Research Conference at PennState University
- Session Chair and Moderator - Villanova University Doctoral Research Seminars
  - College of Engineering's PhD committee representative and chair/moderator at the PhD Proposal Defense and Oral Examination of doctoral candidate Baris Erol (May 2018)
  - College of Engineering's PhD committee representative and chair/moderator at the PhD dissertation defense of Dr. Dimitri Karagiannis (April 2018)
- Villanova's College of Engineering
  - Judge for Freshman Engineering Projects (2014 and 2016)
  - Volunteering organizer and assistant for American Society for Engineering Education Conference (2015)
  - Judge in the USA Regional MATE Underwater Robotics Competition, (Villanova and Rowan Universities, 2014).
- Engineering, and The Innovation, Creativity, & Entrepreneurship Institute at Villanova University (Nova-ICE)
  - Intellectual Property Board Member - Engineering Graduate Students Representative
- Founding Member, Vice President and Technology Chair of Center of Engineering and Education Research's Graduate Club (CEER Graduate Club)
  - Organized the CEER Graduate Club Inaugural Poster Competition. Twelve graduate students participated in this competition. The college of engineering sponsored the event, and awards were provided for the first two winners.
  - Participated in study groups and committees to further advance Villanova as a research fostering environment.

- AUST - Faculty of Engineering
  - Judge and Committee member for the Annual Senior Projects Exposition (May of: 2013, 2015, and 2016)
  - Senior projects evaluation committee member (May 2012)
- Founding Member and Adviser for IEEE Student Branch - AUST Zahle Campus

Outreach Activities and Community Engagement

- Member of the Institute of Electrical and Electronic Engineering (IEEE) Young Professionals (YP) Committee for Region 2 (Eastern USA)
- Member of the Advisory Board for Warren County Career Center
- Member of the Board of Trustees for Community Access Media **3 Years of Service & ongoing**
- Member of the Erie Community Career Pathways Alliance (ECCPA)
- Member of the Business, Finance & Information Technology Advisory Group for Erie Together
- Impact Corry Advisory Group
- Organized and facilitated a Cybersecurity Experiential Learning for Erie Police Academy League Students
- Organized and facilitated a Summer Hack Lab for the "21st Century Girls" group from Corry Higher Education Council
- Organized a "Cyber Career Pathways" presentation for Girard School District
- Organized a "Cyber Program Overview" presentation for Mercyhurst Prep School faculty and staff
- Instructor of the only Programming Course offered at Mercyhurst Prep High School
- Cybersecurity Awareness Month Outreach: appeared numerous times on media and social media live streams discussing Cybersecurity tips for remote workers, students learning online and their parents
- Drafted a letter for PA Deputy Secretary Burke from the PA Department of Community & Economic Development Office of International Business Development titled "Cyber Security Trends & Mercyhurst University's Cyber Security Program"
- Organized a Cybersecurity Competition "Hurst Secures - The Cyber Weekend" for Erie School District Students
- Mercyhurst University
  - Drafted multiple articles on AI, Cyber, and the latest trends in Tech
  - Conducted workshops on Employee Professional Development
  - Drafted a policy letter and guidelines for community members on how to be safe in Cyber Space while working remotely during COVID-19
  - Drafted a recommendation letter for parents to be aware of Cybersecurity for students studying remotely
  - Discussed over Facebook Live and the News strategies to keep kids safe while learning online

- NovaEDGE Engineering Summer High School Program
  - Developed engineering lab experiments in the topics of Computer Engineering and Cybersecurity
  - Developed mini lectures and sample examples for high school students in programming, cybersecurity, and engineering
- Saint Thomas Day of Service
  - As a CEER Graduate Club vice president and active member, we invited our fellow graduate students to participate in a day of service for the community
  - A group of 36 hardworking volunteering graduate students and professors from the College of Engineering helped Chester-Ridley - Crum Watershed Association save over 300 trees that were planted on some streams in Delaware County

Professional Development - Conferences, Summits, Online Seminars & Workshops

- Workshop: "Generative AI and ChatGPT: The Short and Long-Term Impacts on Education & Adaptations for Instructions and Assessment"
- Seminar: "Security Predictions for 2023: What to Expect and How to Respond"
- Cyber Threat Intelligence Summit - SANS Security
- Seminar: "Artificial Intelligence, ChatGPT and Cybersecurity: A Match Made in Heaven or a Hack Waiting to Happen?"
- Community Engagement Workshop - Mercyhurst University
- Journey to the NIST Cybersecurity Framework (CSF) 2.0 Workshop
- Cyber Sensei LIVE: The ideal cyber graduate - the employer's perspective workshop
- 2022 ICS/OT Cybersecurity Year in Review Executive Briefing Webcast
- Seminar: "Why is OT Different than IT IR? The Convergence of IR and Incident Management Principles"
- Chronicle of Higher Education Workshop: "ChatGPT and Other Cutting Edge Learning Tech"
- Global Perspectives on Threat Intelligence: Best Practices for Cyber Defense Workshop
- Security Week's Supply Chain & Third-Party Risk Security Summit
- Workshop: "Deepfakes, Disinformation, and OSINT: Applying Critical Thinking to Achieve Investigative Success in the Age of AI
- How to Prepare for Effective Incident Response - Dragon Security Workshop
- Fortinet's Zero Trust Security for Identities and Privileged Accounts Workshop
- Chronicle of Higher Ed Artificial Intelligence and Research Ethics workshop
- Google Cloud AI/ML Pittsburgh Roadshow - Virtual Attendance
- SANS AI Cybersecurity Summit - The Dark Side of AI and Questions You Should Be Asking
- Google Cloud Security Summit
- Seminar: "Google's Attack Surface Management and Threat Intelligence - A Winning Combination in Cyber Defense"
- SecureWorld Manufacturing Virtual Conference 2023

- Seminar: "The Impact of Artificial Intelligence on the Cybersecurity Industry"

- DevSecOps and Application Threat Landscape Solutions - Security Forum 2022

- Seminar: "ICS Cyber Resilience, Active Defense & Safety"

- Seminar: "Architecting the Next Generation for OT Security"

- FOCUS Group on Diversifying the Cybersecurity Workforce

- Ransomware Resilience & Recovery Summit

- Cyber Threat Intelligence Summit Solutions Track 2022

- Workshop: "Google SLSA & NIST SSDF: Emerging Software Supply Chain Security Best Practices"

- Diversity, Inclusion, Equity, and Justice Faculty Seminar joint cohort meeting

- Workshop on How to Operationalize ICS Threat Intelligence

- 2021 ICS/OT Year in Review Executive Briefing

- Year in Review: Vulnerability Briefing in ICS/OT

- Seminar: "The Fallout: The Russia/Ukraine Conflict and Its Impact on Cybersecurity"

- Operational Technology (OT) Cybersecurity Best Practices for Manufacturing Digital Transformation Workshop

- K2Workforce Neurodiversity in National Security Network - September Meeting

- Building Resiliency in Higher Ed Cybersecurity Programs Workshop

- ICS Cybersecurity Virtual Conference

- Seminar: "When Ransomware Strikes: The Impact of Ransomware in Operational Technology Environments"

- Seminar: "Cybersecurity Threat Scenarios: Safeguarding Your Food and Beverage Manufacturing Operations"

- U.S. Cyber Range Information Session

- 2021 Cybersecurity Legal and Compliance Requirements Workshop

- Blockchain in Education Workshop

- Next Generation Cloud Security for Higher Education Workshop

- Cybersecurity for Public Safety and First Responders Workshop

- Due Diligence and Data Privacy in 2021 Workshop

- Seminar: "Improving threat intelligence with Data Analytics"

- Confronting Realities: A Vision for Cybersecurity Resilience Workshop

- Securing Utilities and Critical Infrastructure in 2021

- NSF's workshop titled: "Making the Leap to Large"

- NSF's Security and Trust in Cyberspace "SaTC town Hall"

- Protecting Hospitals Against Advanced Cyberattacks Workshop

- Seminar: "How to Effectively Architect Threat Intelligence Infrastructure"

- Seminar: "Transition towards Smart Power Grids"
- Guidelines for enhancing Software Supply Chain Workshop (Virtually)
- Seminar: "Securing the Industrial Internet of Things: Cybersecurity for Distributed Energy Resources"
- Seminar: "Securing 5G: The Future of Enterprise Connectivity"
- Implementing the CIS Benchmarks Effectively - Workshop
- "Novel Cloud Approaches for Securing IoT Devices" workshop at ComputationWorld 2020 and NexTech 2020 virtual conference
- "Risk Management Framework Online Training" organized by National Institute of Standards and Technology
- "Considerations in Migrating to Post-Quantum Cryptographic Algorithms" Workshop organized by National Institute of Standards and Technology
- "Innovation for Cyber Education" Workshop organized by National Cyber Moonshot
- "Security of 4G and 5G cellular networks" Workshop
- "Machine Learning Techniques for Fast Protocol Adaptation in Wireless Networks" Workshop
- "Federated Learning: Challenges and Opportunities" Workshop
- " Solving the Blockchain Trilemma" Workshop
- "Technology Trends for Connected and Autonomous Electric Vehicles in Smart Cities" Workshop
- "Ultra-dense Radio Access Network for 5G Advanced Systems" Workshop
- "GIAC GSEC" Crash Course
- "Ethical Hacknig" Bootcamp
- "Progressive Web Applications and Web Assembly" Workshop
- "Cybersecurity Offensive and Defensive Techniques" Workshop
- EPIC's "Privacy and the Pandemic Policy" Workshop
- " Elections, Pandemics & Cybersecurity: A Toxic Brew" Seminar
- "COVID-19: What Would Attackers Do?" Seminar
- "The Human Element in Threat Detection: Endpoint Threats in 2020 and Beyond" Seminar
- "Techniques and End-to-End Systems Engineering for 5G Networks" Seminar
- Oreilly's "Monetizing Data" Workshop
- "Ethical Bias in AI Systems" Workshop
- "Global Regulatory Trends In Privacy and Cybersecurity" Workshop
- "Hot Topics in Cyber Law" Workshop
- "Changing Academia and Cyber Law Education" Panel Discussion
- "AI and Machine Learning: Managing the Risks of Majore Law Suits" Panel Discussion
- RSA 2019 Cyber Security Conference
- NIST 2018 Cyber Security Conference

- "How Encryption Saves Lives" Workshop

- "The Most Dangerous New Attack Techniques" Workshop

- "Guide to Managing Risk & Security in a Digital World" Workshop

- Toastmaster's "Effective Communication for Engineers Workshop", November 15th, 2017

- Arduino Workshop, Villanova University, March 16th 2017

- Software Defined Networking (SDN) for Military Networks Workshop, MILCOM 2016, Baltimore MD, November 1-3, 2016

- Technical Talk Attendee on Information Based Control and Control Communications Complexity, IEEE Philadelphia Section, Villanova University, October 25th, 2016

- Technical Talk Attendee on SoftAir: Software-Defined Networking and Network Function Virtualization Solutions for 5G Cellular Systems, IEEE Philadelphia Section, Temple University, September 7th, 2016

- An Altera University Program Training Workshop: IEEE Philadelphia Section, Drexel University, Bossone Research Center, June 15th, 2016

- Technical Meeting: Collective Phenomena in Complex Networks, IEEE Philadelphia Section, University of Pennsylvania, March 30th, 2016

- Technical Meeting: Systems Engineering Trades in Geolocation: Digital Receiver Design, IEEE Philadelphia Section, Villanova University, October 29th, 2017

Awards and Travel Grants

Awards

- Ken Shciff Legacy Award Recepient - 2022 Faculty Member of the Year for going above and beyond to support students on the spectrum who are part of the Autism Initiative at Mercyhurst Program (AIM)

- Villanova University College of Engineering Outstanding Graduate Student Award, May 2015

- American University of Sciences and Technology Networking Competition (Ranked 1st), February 2012

Travel Grants Awarded

- Travel Grant awarded by the Department of Defense to attend the Defense Urban Terrain 2022, Philadelphia, PA, United States

- Travel Grant to attend ACM/IEEE (ANCS 14), Marina Del Rey, California, United States.

- Travel Grant to attend ACM/IEEE (ANCS 13), San Jose, California, United States.

- Travel Grant to attend AFCEA/IEEE 2016 Military Communications Conference (MILCOM 2016), Baltimore, MD, United States

Scholarships

- Recipient of "Grow with Google Challenge Scholarship - Android Basic track"
  Competitive scholarship to learn for free the basics of Android from Google

- Recipient of "One Million Arab Coders: Data Analyst Program Scholarship"
  Competitive scholarship to learn the unique art of Data Analytics for free

- Final Year Dissertation Fellowship
  Competitive fellowship awarded by the College of Engineering to last year PhD candidates working on dissertation. Includes stipend and tuition support. Villanova University

- Masters and Doctoral Assistantships
  Stipend and full tuition support. ECE Department, Villanova University

Professional Memberships

National CyberWatch
Department Membership   *January 2020 - Present*
A consortium of higher education institutions, businesses, and government agencies focused on collaborative efforts to advance Information Security education and strengthen the national cybersecurity workforce.

Institute of Electrical and Electronics Engineering IEEE
Professional Member   *June 2018 - Present*
A trusted community for engineering, computing, and technology information around the globe.

Association of Computing Machinery ACM
Professional Member   *June 2018 - Present*
The world's largest community of computing educators, researchers, and professionals to inspire dialogue, share resources, and address the field's challenges.

Lebanese Orders of Engineers and Architects
Professional Member   *August 2017 - Present*
A professional community of all engineers in Lebanon to set standards and policies for engineering professions.

IEEE Computer Society
Student Member   *January 2009 - May 2018*
A trusted community for engineering, computing, and technology information around the globe.

Association of Computing Machinery ACM
Student Member   *January 2009 - May 2018*
The world's largest community of computing educators, researchers, and professionals to inspire dialogue, share resources, and address the field's challenges.

Technical skills

Programming Languages/Tools	C, C++, Java, Javascript, Python, Clojure, ClojureScript, JavaScript, ES-6 Standards, JQuery, JSP, HTML, CSS, PL-SQL, NodeJS, ReactJS, React-Native, Assembly (IA-32, MIPS, 8085, 8086, PIC), VHDL, Verilog, and LaTeX
Frameworks	Struts, iBatis, Springs, and MVC frameworks
Simulators	Quartus, Xilinx-ISE, Leonardo Spectrum, Network Simulator (NS-3), Click Modular Router, Cisco Packet Tracer, PSpice, and Mininet
Cybersecurity Tools	Nmap, Wireshark, Metasploit, Burp Suite, Hydra, OWASP ZAP, CISCO, Snort, Nessus, OpenVAS, Splunk, Elk, OpenSSL, TrueCrypt/VeraCrypt, and GnuPG

Language proficiencies

English	Fluent
Arabic	Native Language