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# STEVEN ULLMAN

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## EDUCATION

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<b>Ph.D.</b>	Management Information Systems (MIS) University of Arizona Advisor: Dr. Hsinchun Chen Minor: Cognitive Science	Expected May 2024
<b>MS</b>	Management Information Systems (MIS) University of Arizona Advisor: Dr. Hsinchun Chen	December 2019
<b>MBA</b>	Master of Business Administration Colorado State University-Pueblo	May 2018
<b>BS</b>	Computer Information Systems Colorado State University-Pueblo Graduated Cum Laude Minor: Business Management	May 2018

## PUBLICATIONS

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### Journal Publications

1. B. Ampel and **S. Ullman**, “Why Following Friends Can Hurt You: A Replication Study,” *Accepted at Transactions on Replication Research (TRR), Forthcoming.*

### Journal Papers Under Review

1. **S. Ullman**, S. Samtani, H. Zhu, B. Lazarine, H. Chen, and JF. Nunamaker. “Detecting and Grouping Vulnerable Virtual Machines in Cloud Computing: A Multi-View Representation Learning Approach” *Under First Round Review at Journal of Management Information Systems (JMIS).*

### Work-In-Progress Journal Papers

1. B. Lazarine, S. Samtani, H. Zhu, **S. Ullman**, M. Patton, and H. Chen “Detecting and Grouping Vulnerable GitHub Repositories in Scientific Cyberinfrastructure: An Unsupervised Graph Embedding Approach” *Targeted at Journal of Management Information Systems (JMIS).*
2. **S. Ullman**, B. Ampel, “Replication of Internet Privacy Concerns in the Context of Smart Home Devices” *Targeted at AIS Transactions on Replication Research (TRR).*
3. **S. Ullman**, H. Zhu, S. Samtani, and H. Chen “Linking Vulnerabilities in Cyberinfrastructure with Their Remediations: A Contrastive Representation Learning Approach” *Targeted at Information Systems Research (ISR).*

4. C. Yang, **S. Ullman**, S. Samtani, H. Zhu, and H. Chen “Exploring the Propagation of Vulnerabilities in FinTech Payment Applications on GitHub: A Deep Node Ranking Approach”.
5. A. Ndubizu, **S. Ullman**, S. Samtani, H. Zhu, and H. Chen “Generating Security Nutrition Labels for Internet of Things Device GitHub Repositories: A Multi-Label Classification Approach”.

### Refereed Conference Proceedings

1. **S. Ullman**, S. Samtani, H. Zhu, B. Lazarine, B. Ampel, M. Patton, and H. Chen “Smart Vulnerability Assessment for Scientific Cyberinfrastructure: An Unsupervised Graph Embedding Approach” IEEE Intelligence and Security Informatics (ISI). Rosslyn, VA (Virtual). November 2020.
2. B. Ampel, S. Samtani, H. Zhu, **S. Ullman**, and H. Chen “Labeling Hacker Exploits for Proactive Cyber Threat Intelligence: A Deep Transfer Learning Approach” IEEE Intelligence and Security Informatics (ISI). Rosslyn, VA (Virtual). November 2020. (*Winner of the Best Paper Award*).
3. B. Lazarine, S. Samtani, M. Patton, H. Zhu, **S. Ullman**, B. Ampel, and H. Chen “Identifying Vulnerable GitHub Repositories and Users in Scientific Cyberinfrastructure: An Unsupervised Graph Embedding Approach” IEEE Intelligence and Security Informatics (ISI). Rosslyn, VA (Virtual). November 2020.

### Refereed Workshop Papers (No Proceedings)

1. B. Ampel, S. Samtani, **S. Ullman**, H. Chen “Linking Common Vulnerabilities and Exposures to the MITRE ATT&CK Framework: A Self-Distillation Approach” ACM KDD Workshop on AI-enabled Cybersecurity Analytics. Virtual Event. August 2021.

### INVITED TALKS AND EXTERNAL PRESENTATIONS

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1. Open Data Science Conference (ODSC) West 2022. **Presentation Title:** “AI4Cyber: An Overview of the Field and an Open-Source Virtual Machine for Research and Education” November 2, 2022. Co-Presenter.
2. Inaugural University of Arizona MS Cybersecurity Board of Advisors Meeting. **Presentation Title:** “Detecting and Grouping Vulnerable Virtual Machines in Public Clouds: A Multi-View Representation Learning Approach” April 8, 2022.
3. NSF Cybersecurity Summit Vulnerability Management Workshop. **Presentation Title:** “Detecting and Grouping Vulnerable Virtual Machines in Scientific Cyberinfrastructure” October 19, 2021.
4. NSF Cybersecurity Summit Vulnerability Management Workshop. **Presentation Title:** “Detecting and Linking Vulnerabilities in Scientific Cyberinfrastructure to MITRE ATT&CK” October 19, 2021.

### PROFESSIONAL AFFILIATIONS

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1. Association for Information Systems (AIS), Member.
2. Institute of Electrical and Electronics Engineers (IEEE), Member.
3. Association for Computing Machinery (ACM), Member.

## PROFESSIONAL SERVICE

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### Ad-hoc Reviewer: Journal Publications

ACM Digital Threats: Research and Practice (DTRAP), 2022; Computers & Security, 2022; Transactions on Dependable and Secure Computing (TDSC), 2021; ACM Transactions on Management Information Systems (TMIS), 2019.

### Ad-hoc Reviewer: Refereed Conference Proceedings

Hawaii International Conference on System Sciences (HICSS), 2021; Pacific Asia Conference on Information Systems (PACIS), 2020, 2021, 2022; International Conference on Information Systems (ICIS), 2020, 2021; IEEE Security and Privacy Deep Learning and Security Workshop (DLS) 2020; ICDM Workshop on Deep Learning for Cyber Threat Intelligence (DL-CTI), 2020; INFORMS Workshop on Data Science (WDS), 2022.

### Conference Committees

ACM Conference on Computer and Communications Security (CCS) AISEC Workshop, 2021; Program Committee, Workshop on Artificial Intelligence-enabled Cybersecurity Analytics (AI4Cyber-KDD), 2021.

## HONORS AND AWARDS

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- Winner, Paul S. and Shirley Goodman Award in International Computer Technology. 2021-2022.
- Winner, Samtani-Garcia MIS Ph.D. Commitment Scholarship. 2021-2022.
- Winner, Best Paper Award, IEEE Intelligence and Security Informatics (ISI). 2020.
- Winner, Nunamaker-Chen Doctoral Student Scholarship. 2020.

## TEACHING EXPERIENCE

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### University Courses:

Role	Semester	Course	Location	# Students
GTA	Spring 2023	MIS 611D: Topics in Data and Web Mining	UArizona	6
GTA	Spring 2023	MIS 464: Data Analytics	UArizona	39
GTA	Fall 2022	MIS 689: Cyber Warfare Capstone	UArizona	11
GTA	Spring 2022	MIS 689: Cyber Warfare Capstone	UArizona	16
GTA	Fall 2021	MIS 689: Cyber Warfare Capstone	UArizona	13
GTA	Spring 2021	MIS 689: Cyber Warfare Capstone	UArizona	4
GTA	Fall 2020	MIS 689: Cyber Warfare Capstone	UArizona	17
GTA	Spring 2020	MIS 689: Cyber Warfare Capstone	UArizona	3
GTA	Fall 2019	MIS 689: Cyber Warfare Capstone	UArizona	15
GTA	Spring 2019	MIS 689: Cyber Warfare Capstone	UArizona	3

### External:

- **AZ Cyber Initiative – Cyber Bootcamp** (High School Bootcamp). 2021 (Inaugural Year), 2022.

## GRANT EXPERIENCE

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- **Year:** 2022. **Funding Source:** National Science Foundation. **Grant Title:** “CICI: UCSS: Enhancing the Usability of Vulnerability Assessment Results for Open-Source Software Technologies in Scientific Cyberinfrastructures: A Deep Learning Perspective” **Funding Amount:** \$600,000. **Role:** Assisting Grant Writer. **Status:** Not Funded (Low Competitive).
- **Year:** 2022. **Funding Source:** National Science Foundation. **Grant Title:** “CISE-MSI: DP: SaTC: MSI Research Capacity Building for Artificial Intelligence (AI)-enabled Vulnerability Assessment and Remediation in Cyberinfrastructure” **Funding Amount:** \$600,000 (UArizona Share: \$380K). **Role:** Lead Author. **Duration:** 2022-2025. **Status:** Awarded.
- **Year:** 2021. **Funding Source:** National Science Foundation. **Grant Title:** “CCRI: New: CCRI for Cybersecurity: An Artificial Intelligence (AI)-enabled Cybersecurity Analytics Perspective” **Funding Amount:** \$2,000,000. **Role:** Assisting Grant Writer. **Status:** Not Funded (Low Competitive).
- **Year:** 2020. **Funding Source:** National Science Foundation. **Grant Title:** “CICI: SIVD: Proactively Detecting and Categorizing Configuration and Social Coding Vulnerabilities in Scientific Cyberinfrastructure: An AI-enabled Vulnerability Discovery Approach” **Funding Amount:** \$492,000. **Role:** Assisting Grant Writer. **Status:** Not Funded (Competitive).
- **Year:** 2020. **Funding Source:** NSF XSEDE. **Grant Title:** “Exploratory Study of Scientific Cyberinfrastructure for Information Systems Research” **Funding Amount:** \$2,000. **Status:** Awarded. **Rating:** N/A. **Role:** Allocation Manager.

## WORK EXPERIENCE

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<b>University of Arizona</b> <i>Graduate Research/Teaching Assistant</i>	August 2018 – Present
<b>The MITRE Corporation</b> <i>Cybersecurity Intern</i>	May 2019 – August 2019
<b>Institutional Research (CSU-Pueblo)</b> <i>Data Analytics Assistant</i>	May 2017 – May 2018

## TECHNICAL SKILLS

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- **Databases:** Oracle, MySQL, MongoDB
- **Programming Languages:** Python, R, Bash
- **Visualization:** Tableau, Gephi
- **Data Mining Tools:** RapidMiner, SPSS, scikit-learn
- **Deep Learning Modules:** TensorFlow Keras, PyTorch
- **Security Tools:** Nmap, Wireshark, SQLMap, Metasploit, Meterpreter, Hydra, Nessus, BurpSuite
- **Operating Systems:** Linux (Ubuntu, CentOS), Windows