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Ben Lazarine

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Department of Operations and Decision Technologies
Indiana University

Kelley School of Business
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EDUCATION

- Ph.D.**, Information Systems, Indiana University 2021-2026 (Expected)
- Minor: Data Science
 - Advisor: Dr. Sagar Samtani
- M.S.**, Management Information Systems (MIS), University of Arizona 2019-2021
- NSF Scholarship-for-Service Fellow
 - Advisor: Dr. Hsinchun Chen
- B.S.**, Management Information Systems (MIS), University of Arizona 2015-2019
- **Minor**: Computer Science
 - Graduated Magna Cum Laude

RESEARCH INTERESTS

Applications: Artificial Intelligence Risk Modeling, Open-Source Intelligence, GitHub.

Methods: Deep learning, social network analysis.

PUBLICATIONS

Journal Papers Under Review

1. A. Sachdeva, B. Lazarine, H. Zhu, S. Samtani, and R. Venkataraman “Predicting Vulnerability Introduction in Social Coding Repositories: A Dynamic Graph Embedding Approach,” **Under First Round Review at Information Systems Research (ISR)**.
2. S. Ullman, S. Samtani, H. Zhu, **B. Lazarine**, and H. Chen “Smart Vulnerability Assessment for Scientific Cyberinfrastructure: A MultiView Representation Learning Approach” **Under Second Round Review at Journal of Management Information Systems (JMIS)**.

Working Journal Papers

1. **B. Lazarine**, H. Zhu, A. Sachdeva, S. Samtani, and R. Venkataraman “Identifying Linked Artificial Intelligence Repositories on GitHub: A Graph Self-Supervised Learning Approach,” **Targeted at Information Systems Research (ISR)**.
2. **B. Lazarine**, S. Samtani, H. Zhu, and H. Chen “Identifying Vulnerable GitHub Repositories and Users in Scientific Cyberinfrastructure: A Vulnerability Associated Unsupervised Graph Embedding Approach,” **Targeted at Journal of Management Information Systems (JMIS)**.

Refereed Conference Proceedings (* Indicates that I was a presenting author)

1. A. Sachdeva, **B. Lazarine**, R. Dama, S. Samtani, H. Zhu, “Identifying Patterns of Vulnerability Incidence in Foundational Machine Learning Repositories on GitHub: An Unsupervised Graph Embedding Approach,” In International Conference on Data Mining Workshop on Machine Learning for Cybersecurity (ICDM MLC), Orlando, Florida, November 2022.

2. **B. Lazarine**, Z. Zhang, A. Sachdeva, S. Samtani, and H. Zhu, "Exploring the Propagation of Vulnerabilities from GitHub Repositories Hosted by Major Technology Organizations," In Cyber Security Experimentation and Test Workshop (CSET), Virtual, California, August 2022.
3. C. Marx, B. Ampel, and **B. Lazarine***, "The Influence of AI-Agent Recommendations on Escalation of Commitment," Proceedings of 2021 AIS International Conference on Information Systems (ICIS), Austin, Texas, December 2021.
4. **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," Proceedings of 2020 IEEE International Conference on Intelligence and Security Informatics (ISI), Washington, D.C., November 2020.
5. S. Ullman, S. Samtani, **B. Lazarine**, H. Zhu, B. Ampel, M. Patton, and H. Chen, "Smart Vulnerability Assessment for Scientific Cyberinfrastructure: An Unsupervised Graph Embedding Approach," Proceedings of 2020 IEEE International Conference on Intelligence and Security Informatics (ISI), Washington, D.C., November 2020.
6. N. Arnold, M. Ebrahimi, N. Zhang, **B. Lazarine**, S. Samtani, M. Patton, and H. Chen, "Dark-Net Ecosystem Cyber- Threat Intelligence (CTI) Tool," ISI 2019, Proceedings of 2019 IEEE Conference on Intelligence and Security Informatics (ISI). Shenzhen, China, July 2019
7. P. Du, N. Zhang, M. Ebrahimi, S. Samtani, **B. Lazarine**, N. Arnold, R. Dunn, S. Suntwal, G. Angeles, R. Schweitzer, and H. Chen, "Identifying, Collecting, and Presenting Hacker Community Data: Forums, IRC, Carding Shops, and DNMs," ISI 2018, Proceedings of 2018 IEEE Conference on Intelligence and Security Informatics (ISI). Miami, Florida, November 2018.

Refereed Workshop Papers (No Proceedings)

1. A. Sachdeva, **B. Lazarine**, S. Samtani, and H. Zhu, "User Profiling and Vulnerability Introduction Prediction in Social Coding Repositories: A Dynamic Graph Embedding Approach," In 2022 INFORMS Workshop on Data Science, Indianapolis, Indiana, October 2022.
2. **B. Lazarine***, A. Sachdeva, S. Samtani, and H. Zhu, "Identifying Linked Repositories on GitHub: A Self-Supervised Graph Embedding Approach," In 2022 INFORMS Workshop on Data Science, Indianapolis, Indiana, October 2022.

INVITED TALKS AND EXTERNAL PRESENTATIONS

1. NSF Cybersecurity Summit Vulnerability Management Workshop. **Presentation Title:** "Detecting and Linking Vulnerabilities in Scientific Cyberinfrastructure to MITRE ATT&CK" October 19, 2021.
2. NSF Cybersecurity Summit. **Presentation Title:** "Identifying Vulnerable GitHub Repositories in Scientific Cyberinfrastructure: An Artificial Intelligence Approach" October 13, 2021.

RESEARCH GRANTS

Grant Experience

- **Year:** 2023. **Grant Title:** "CICI: UCSS: Enhancing the Usability of Vulnerability Assessment Results for Open-Source Software Technologies in Scientific Cyberinfrastructure: A Deep Learning Perspective" **Funding source:** National Science Foundation. **Funding Amount:** \$600,000. **Status:** Accepted. **Role:** Assisting Grant Writer
- **Year:** 2021. **Grant Title:** "CICI: Proactively Detecting, Categorizing, and Mitigating Configuration and Social Coding-based Vulnerabilities in Scientific Cyberinfrastructure: An AI-enabled Scientific Infrastructure Vulnerability Discovery (SIVD) Approach" **Funding source:**

National Science Foundation. **Funding Amount:** \$500,000. **Status:** Declined. **Role:** Assisting Grant Writer.

PROFESSIONAL SERVICE

Ad-hoc Reviewer (2 Journals):

- Digital Threats: Research and Practice (DTRAP), 2022.
- IEEE Transactions on Dependable and Secure Computing (TDSC), 2020.

Ad-hoc Reviewer (2 Conferences):

- INFORMS Workshop on Data Science (WDS), 2022.
- Conference on Information Systems and Technology (CIST), 2022.

Other Service to the Field (IS):

- Volunteer, Conference on Applied Machine Learning for Information Security (CAMLIS), 2022. Arlington, Virginia.
- Volunteer, INFORMS Workshop on Data Science (WDS), 2022. Indianapolis, Indiana.
- Web Master, Conference on Applied Machine Learning for Information Security (CAMLIS), 2022. Arlington, Virginia.
- Program Committee Member, ACM KDD Workshop on AI-enabled Cybersecurity Analytics and Deployable Defense (AI4Cyber/MLHat). 2022. Washington, DC.
- Volunteer, International Conference on Information Systems (ICIS), 2021. Austin, Texas.
- Volunteer, INFORMS Workshop on Data Science (WDS), 2021. Virtual.
- Web Master, KDD Workshop on AI-enabled Cybersecurity Analytics, 2021. Singapore (Virtual).

HONORS & AWARDS

- AMCIS Outstanding Reviewer (2023)
- CyberCorps: NSF Scholarship-for-Service Fellow (2019-2021)
- Eller Business School Circle of Excellence Inductee (2019)

PROFESSIONAL AFFILIATIONS AND SOCIETIES

1. Association for Information Systems (AIS), Member
2. The Institute for Operations Research and the Management Sciences (INFORMS), Member
3. Association for Computing Machinery (ACM), Member
4. Institute of Electrical and Electronics Engineers (IEEE), Member

RELEVANT TECHNOLOGY SKILLS

1. **Databases:** MySQL, PL/SQL
2. **Programming Languages:** Python, Java
3. **Web Development:** HTML, JavaScript, WordPress
4. **Visualization tools:** Tableau, Gephi
5. **Data mining tools:** RapidMiner, WEKA, scikit-learn

WORK EXPERIENCE

Data Science and Artificial Intelligence Laboratory

Research Associate

Bloomington, Indiana

May 2022 – Present

Indiana University

Graduate Research Assistant

Bloomington, Indiana

August 2021 – Present

Eller Artificial Intelligence Laboratory
NSF Research Experience for Undergraduates Student

Tucson, Arizona
February 2017 – May 2019

USAA
Software Developer and Integrator

San Antonio, Texas
Summer 2018

REFERENCES

- 1. Sagar Samtani, Ph.D. (Major Advisor)**
Assistant Professor
Kelley School of Business
Email: ssamtani@iu.edu
Phone: 520.971.4274
- 2. Hsinchun Chen, Ph.D.**
Regents' Professor
Thomas R. Brown Chair of Management and Technology
Director, Artificial Intelligence Lab
Eller College of Management
Email: hchen@eller.arizona.edu
Phone: 520.621.2748
- 3. Hongyi Zhu, Ph.D.**
Assistant Professor
The University of Texas at San Antonio College of Business
Email: hongyi.zhu@utsa.edu
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