

## Victor Benjamin

Department of Information Systems  
W.P. Carey School of Business  
Arizona State University  
Tempe, Arizona 85287

Co-director of Actionable Analytics Lab  
E-mail: Victor.Benjamin@asu.edu

### ACADEMIC APPOINTMENTS

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- 2017 - Co-Director**  
Actionable Analytics Lab  
Arizona State University
- 2016 - Assistant Professor**  
Arizona State University  
W.P. Carey School of Business  
Department of Information Systems

### EDUCATION

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|--------------|---------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Ph.D.</b> | Eller College of Management, University of Arizona<br><b>Major:</b> Management Information Systems<br><b>Minor:</b> Linguistics | 2016 |
| <b>M.S.</b>  | Eller College of Management, University of Arizona<br>Management Information Systems                                            | 2012 |
| <b>B.S.</b>  | Eller College of Management, University of Arizona<br>Management Information Systems, with Honors                               | 2011 |

### RESEARCH INTERESTS

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**Methodology:** Web Mining, Natural Language Processing, Machine Learning  
**Applications:** Cybersecurity, Security Informatics, Social Media Analytics, Robotics

### REFEREED JOURNAL ARTICLES

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Ogbanufe, O., Benjamin, V., & Kim, D. Adversarial Knowledge-Sharing in a Cooperative Environment: A Darknet Hacker Context. *European Journal of Information Systems*. Forthcoming.

Benjamin, V., & Raghu, T. S. (2023). Augmenting social bot detection with crowd-generated labels. *Information Systems Research*, 34(2), 487-507.

Samtani, S., Li, W., Benjamin, V., and Chen, H. (2021). Informing Cyber Threat Intelligence through Dark Web Situational Awareness: The AZSecure Hacker Assets Portal. *ACM Digital Threats: Research and Practice*. 2 (4), pp. 1-10.

Karande, H., Walambe, R., Benjamin, V., Kotecha, K. & Raghu, T.S. (2021). Stance detection with BERT embeddings for credibility analysis of information on social media. *PeerJ Computer Science*. 7, e467.

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- Benjamin, V., Valacich, J., & Chen, H. (2019). DICE-E: A Framework for Conducting Darknet Identification, Collection, Evaluation, with Ethics. *Management Information Systems Quarterly*. 43 (1).
- Benjamin, V., Zhang, B., Nunamaker, J., & Chen, H. (2016). Examining Cybercriminal Participation Length within Cybercriminal IRC Communities. *Journal of Management Information Systems*. 33 (2), 482-510.
- Benjamin, V., Chung, W., Abbasi, A., Chuang, J., Larson, C.A., and Chen, H. (2014). Evaluating Text Visualization for Authorship Analysis. *Security Informatics*. 3 (1), 10.
- Benjamin, V., Chen, H., and Zimbra, D. (2014). Bridging the virtual and real: The relationship between web content, linkage, and geographical proximity of social movements. *Journal of the Association for Information Science and Technology*. 65 (11), 2210-2222.

### EXTERNAL FUNDING

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NSF Division of Computer and Network Systems Subaward #2133980 (Pass-through entity: University of San Antonio), \$14,140, “Secure Knowledge Management Workshop”, 2023.

Adidas, \$100,000, “Social Media Analytics for adidas,” 2018 – 2019.

Adidas, \$200,000, “Analytics of Retail & Adidas.com Customer and Sales Data,” 2017 – 2018.

### REFEREED CONFERENCE PAPERS

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- Benjamin, V., Almuallem, A., Gagliardi, T., Felix, I., and Romero, E. (2023) Towards Understanding Service Delivery Robot Impact on Pedestrians. *INFORMS Workshop on Data Science*.
- Ding, Z., Benjamin, V., Yin, X., and Li, W. (2023) Comparing the Value of Darknet and Surface Web Cyberthreat Intelligence. *Secure Knowledge Management*.
- Benjamin, V. & Gopalkrishnan, M. (2021). Understanding Supply Chain Threats and Corresponding Security Practice. *Production and Operations Management Society (POMS) Annual Conference*.
- Ding, Z., Benjamin, V., Li, W., Yin, X. (2021). Exploring Differences Among Darknet and Surface Internet Hacking Communities. *IEEE International Conference on Intelligence and Security Informatics*.
- Shen, W., Benjamin, V., & Raghu, T.S. (2021). How do gig workers trade-off between work and study? *Workshop on Information Technology and Systems*.
- Benjamin, V., & Raghu, T.S (2020) Detecting Algorithmically-generated Social Media Videos. *Workshop on Information Technology and Systems*.
- Du, B., Singhal, P., Benjamin, V., Li, W. (2020). Detecting Cyber-Adversarial Videos in Traditional Social Media. *IEEE International Conference on Intelligence and Security Informatics*.

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- Yan, X., Liu, X., Benjamin, V., Chen, P. (2019). AI-Enabled Service: A theory-driven multi-methods design approach. *Workshop on Information Technologies and Systems (WITS)*.
- He, Q., Benjamin, V., Hong, Y., & T.S., R. (2018). Role of Reference Points in Goal-directed Websites – A Randomized Field Experiment”, *Conference on Digital Experimentation (CODE)*.
- He, Q., Benjamin, V., Hong, Y., & T.S., R. (2018). Role of Reference Points in Goal-directed Websites – A Randomized Field Experiment”, *INFORMS Annual Meeting*.
- He, Q., Benjamin, V., Hong, Y., & T.S., R. (2018). Multi-channel Complementarity in Goal-driven Platforms. *Statistical Challenges in Electronic Commerce Research*.
- He, Q., Benjamin, V., Hong, Y., & T.S., R. (2017). Multi-channel Complementarity in the Online Learning Context. *Proceedings of the 27<sup>th</sup> Workshop on Information Technologies and Systems (WITS)*.
- Benjamin, V., & Chen, H. (2016). Identifying language groups within multilingual cybercriminal forums. *IEEE Intelligence and Security Informatics*. 205-207
- Benjamin, V., and Chen, H. (2015). Developing Understanding of Hacker Language through the use of Lexical Semantics. *IEEE Intelligence and Security Informatics*. 79-84.
- Benjamin, V., Li, W., Holt, T., and Chen H. (2015) Exploring Threats and Vulnerabilities in Hacker Web Forums, IRC, and Carding Shops. *IEEE Intelligence and Security Informatics*. 85-90. **(Best paper, runner-up)**
- Chung, W., He, S., Zeng, D., and Benjamin, V. (2015). Emotion Extraction and Entrainment in Social Media: The Case of U.S. Immigration and Border Security. *IEEE Intelligence and Security Informatics*. 3 (1), 10.
- Benjamin, V., and Chen, H. (2014). Time-to-event Modeling for Predicting Hacker Community IRC Participant Trajectory. *IEEE Intelligence and Security Informatics*. 25-32.
- Abbasi, A., Li, W., Hu, S., Benjamin, V., Chen H. (2014). Modeling Interactions in Web Forums. *In the 6th ASE International Conference on Social Computing*. Stanford, May 27-31.
- Abbasi, A., Li, W., Benjamin, V., Hu, S., Chen H. (2014). Descriptive Analytics: Investigating Expert Hackers in Web Forums. *IEEE Intelligence and Security Informatics*. 56-63.
- Chadha, K., Benjamin, V., Al-Nashif, Y., Haririm S., Chen, H. (2014). Automated and Scalable Infrastructure for Hacker IRC Collection. *International Conference on Cloud and Autonomic Computing (CAC)*.
- Benjamin, V., Chung, W., Abbasi, A., Chuang, J., Larson, C.A., Chen, H. (2013). Evaluating text visualization: An Experiment in Authorship Analysis. *IEEE Intelligence and Security Informatics*. 16-20. **(Best paper, runner-up)**
- Benjamin, V. & Chen, H. (2013). Machine learning for attack vector identification in malicious source code. *IEEE Intelligence and Security Informatics*. 21-23.

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Benjamin, V. & Chen, H. (2012). Securing cyberspace: Identifying key actors in hacker communities. *IEEE Intelligence and Security Informatics*. 24-29.

### BOOK CHAPTERS

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Samtani, S, Abate, M., Benjamin, V., & Li, W. (2020). “Cybersecurity as an Industry: A Cyber-Threat Intelligence Perspective”. *Palgrave Handbook of International Cybercrime and Cyberdeviance*.

Benjamin, V., Samtani, S., & Chen, H. (2017). “Exploring the Hacker Web: A Computational Approach” *Cybercrime Through an Interdisciplinary Lens*. Routledge Press. 56-75.

### TECHNICAL REPORTS\WHITE PAPERS

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Zac, R., Benjamin, V., Gopalkrishnan, M., & Choi, T. (2018). Cybersecurity in Supply Chains. *CAPS Research*.

### NEWSPAPER OP-EDS

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Benjamin, V., (March, 2021). Divisive, demoralizing bots are winning, so big tech needs to think bigger. *Boston Globe*. <https://www.bostonglobe.com/2021/03/21/opinion/divisive-demoralizing-bots-are-winning-so-big-tech-needs-think-bigger/>

### INVITED TALKS

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2022	Arizona State University Research Computing Expo
2022	Arizona State University Human Systems Engineering
2021	Information Systems Virtual Consortium (Hosted by Indiana University)
2019	Michigan State University Interdisciplinary Conference on Cybersecurity
2017	Invited as panelist for Women in Cybersecurity (WiCyS) Conference
2016	Arizona State University

### MEDIA EXPOSURE

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- “Taylor Swift Shows up in Trending Phoenix Internet Searches for 2023” <https://www.yourvalley.net/stories/taylor-swift-shows-up-in-trending-phoenix-internet-searches-for-2023,469946>
- “How the Future of AI Could Impact the Economy” <https://azpbs.org/horizon/2023/07/how-the-future-of-ai-could-impact-the-economy/>
- “New chatbots are hitting the market; an ASU AI expert explains their differences” <https://news.asu.edu/20230725-solutions-new-chatbots-are-hitting-market-asu-ai-expert-explains-their-differences>
- “When humans talk to robots” <https://news.wpcarey.asu.edu/20221208-when-humans-talk-robots>
- “Where AI and disinformation meet” <https://news.asu.edu/20221013-discoveries-where-ai-and-disinformation-meet>

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- “Google to pay Arizona \$85M in privacy suit that alleged ‘deceptive’ location tracking, <https://www.usatoday.com/story/money/2022/10/05/google-arizona-lawsuit-settlement-85-million/8185226001/>
- “Business and engineering students join forces to form Robodevils” <https://news.wpcarey.asu.edu/20220103-business-and-engineering-students-join-forces-form-robodevils>
- “Dark Web 101: What’s there and why the government can’t shut it down” – Kim Commando Podcast, <https://player.fm/series/kim-komando-explains/dark-web-101-whats-there-and-why-the-government-cant-shut-it-down>
- “How companies use your information to get the most money from you” <https://www.abc15.com/news/smart-shopper/how-companies-use-your-information-to-get-the-most-money-from-you>
- “Facebook, Instagram, and WhatsApp experience worldwide outage” <https://azpbs.org/horizon/2021/10/facebook-instagram-whatsapp-outage/>
- “ASU professor researching how humans can help technology detect bad bots” <https://news.asu.edu/20210902-discoveries-asu-research-finds-humans-can-help-detect-bad-bots>
- “Bluetooth Is Useful, Ubiquitous, and an Invitation to Hackers” <https://www.renalandurologynews.com/home/departments/hipaa-compliance/bluetooth-enabled-devices-potentially-susceptible-to-security-breaches/>
- “Student influences robotics in business” <https://news.wpcarey.asu.edu/20210216-student-influences-robotics-business>
- “Keystroke cops: Prof outlines framework for fighting cybercrime” <https://news.wpcarey.asu.edu/20200217-keystroke-cops-prof-outlines-framework-fighting-cybercrime>
- “Information systems and Adidas team up to understand sporting goods customers” <https://news.wpcarey.asu.edu/20190415-information-systems-and-adidas-team-understand-sporting-goods-customers>
- “Man vs machines: Research aims to nix bot content online” <https://news.wpcarey.asu.edu/20190305-man-vs-machines-research-aims-nix-bot-content-online>
- “Analytical to the Core: In Response to Industry Demand, Arizona State Integrates Analytics Throughout its Curriculum” <https://bized.aacsb.edu/articles/2019/january/analytical-to-the-core>
- “Software vs. software: How AI could find and finger video bots online.” <https://news.wpcarey.asu.edu/20181227-software-vs-software-how-ai-could-find-and-finger-video-bots-online>

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- The State Press, “ASU cybersecurity professionals encourage students to join the field.”  
<http://www.statepress.com/article/2018/09/spscience-asu-cybersecurity-professionals-encourage-students-to-join-the-field>
- Phoenix Channel 12 News (NBC), “FBI Warns banks of potential ATM Hack. Here's how consumers are protected.” <https://www.12news.com/article/money/consumer/fbi-warns-banks-of-potential-atm-hack-heres-how-consumers-are-protected/75-584559957>
- Prescott Daily Courier, “There’s no avoiding it: Artificial Intelligence is going to take jobs, so be ready.” <https://www.dcourier.com/news/2018/may/27/future-proofing-your-job/>
- East Valley Tribune, “Next phase in internet speed being built in Chandler.”  
[http://www.eastvalleytribune.com/local\\_businesses/next-phase-in-internet-speed-being-built-in-chandler/article\\_3afb7622-43e5-11e8-a20c-f3f5cf1174f4.html](http://www.eastvalleytribune.com/local_businesses/next-phase-in-internet-speed-being-built-in-chandler/article_3afb7622-43e5-11e8-a20c-f3f5cf1174f4.html)
- The Chronicle of Higher Education, “Twitter for Scientists: an Idea Whose Time has Finally Come?”  
<https://www.chronicle.com/article/Twitter-for-Scientists-an/242861>
- AZ Big Media, “Valley Entrepreneur hopes KryptoPal becomes the Paypal of Cryptocurrency.”  
<https://azbigmedia.com/phoenix-entrepreneur-launches-startup-usher-mass-adoption-cryptocurrencies>
- Cronkite News, “Arizona could allow tax payments in Bitcoin and other cryptocurrencies.”  
<https://cronkitenews.azpbs.org/2018/02/09/arizona-could-allow-tax-payments-in-bitcoin-and-other-cryptocurrencies/>

## AWARDS\HONORS

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IEEE *Intelligent Transportation Systems Society* (ITSS) Research Award in Intelligence and Security Informatics, 2021

Dean’s List for Teaching Impact, 2020-2021

Dean’s Excellence in Research Summer Grant, ASU W.P.Carey, 2020

ASU Department of Information Systems Graduate Teaching Award, 2019

Founding Member of the DARPA Polyplexus Program, 2018

Most Impactful Information Management Professor, ASU W.P. Carey Full-time MBA, 2018

Best Paper Runner-up, IEEE Conference on Intelligence and Security Informatics, 2015

University of Arizona Paul S. and Shirley Goodman Award, 2015

Best Paper Runner-up, IEEE Conference on Intelligence and Security Informatics, 2013

## TEACHING EXPERIENCE (Lifetime Course Evaluation Rating: 6.0+/7)

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2023 – Spring	CIS 503 – Decision Making w/ Data Analytics (MBA)
	Arizona State University

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Enrollment: 75 Graduate Students (2 sections)

CIS 591 – Big Data Analytics  
Arizona State University  
Enrollment: 53 Graduate Students

2022 – Spring  
CIS 591 – Big Data Analytics  
Arizona State University  
Enrollment: 37 Graduate Students

CIS 593 – Applied Projects (2 sections)  
Arizona State University  
Enrollment: 129 Graduate Students

CIS 590 – Reading and Conference  
Arizona State University  
Enrollment: 19 Graduate Students

2021 – Spring  
CIS 509 – Data Mining II (3 Sections)  
Arizona State University  
Enrollment: 110 students

2020 – Spring  
CIS 591 – Information Enabled business Modeling  
Arizona State University  
Enrollment: 49 Graduate Students

2019 – Fall  
CIS 503 – Decision Making with Data Analytics (MBA)  
Arizona State University  
Enrollment: 48 Graduate Students

CIS 509 – Data Mining II (Online)  
Arizona State University  
Enrollment: 26 Graduate Students

2018 – Spring  
CIS 591 – Information Enabled Business Models (Online)  
Arizona State University  
Enrollment: 50 Graduate Students

CIS 593 – Applied Project  
Arizona State University  
Enrollment: 23 Graduate Students

2017 - Fall  
CIS 591 – Information Enabled Business Models (Online)  
Arizona State University  
Enrollment: 23 Graduate Students

2017 - Summer  
CIS 591 – Information Enabled Business Models (Online)  
Arizona State University  
Enrollment: 42 Graduate Students

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2017 - Spring	CIS 591 – Information Enabled Business Models Arizona State University Enrollment: 53 Graduate Students
2016 - Fall	CIS 591 – Information Enabled Business Models (Online) Arizona State University Enrollment: 25 Graduate Students
2014 - Summer	MIS 111 – Computers and the Internetnetworked Society University of Arizona Enrollment: 25 Undergraduate Students

### Ph.D. Dissertation Committees

- Zhibo Sun, Spring 2021 - Committee Member
- Xueyan Yin, Spring 2020 – Committee Member

### Undergraduate Honors Theses at ASU Barrett Honors College:

- Rini Jain, 2023, TBD
- Henry O’Scaannlain-Miller, 2022, “*FuseApply: Reducing Friction in Online Job Applications*”
- Courtney Dozier, 2022, “*Examining Descriptiveness of Narratives Generated using Planning and LLMs*”
- Sai Jegadesan, 2021, “*Building an optimized NBA Team Composition: A Sports Analytical Approach*”
- Kylel Scott, 2020, “*The Investigation of Low Cost Computer Vision Application for First Responder Co-robotics*”
- Lun Sai, 2019, “*Video Bot Detection – A Deep Learning Based Framework*”
- Joshua Wilson, 2019, “*Farms of the Future: Food Security in a Changing World*”
- Andrew Stievater, 2019, “*A Review of Cybersecurity Standards for Businesses*”
- Xiaoyu Zhu, 2018, “*Comparing Social Media Sentiment with Bitcoin Price*”
- Zhen Wang, 2018, “*Darknet Markets Analysis & Business Intelligence*”

## SERVICE

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### Conference Chairs:

- INFORMS Workshop on Data Science, Co-Chair (December 2023-2024)
- IEEE Intelligence and Security Informatics, Conference Co-Chair (November, 2021)
- IEEE Intelligence and Security Informatics, Publication Co-Chair (November, 2020)
- IEEE International Conference on Data Mining (ICDM) Deep Learning for Cyber-threat Intelligence Workshop (November, 2020)

### Program Chairs:

- INFORMS Workshop on Data Science, Program Co-Chair (October 2023)
- International Conference on Secure Knowledge Management, Program Chair (September 2023)

### Area Editor:

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- International Conference on Information Systems (ICIS) (2021)
- International Conference on Information Systems (ICIS) (2020)
- International Conference on Information Systems (ICIS) (2019)

### **Program Committees:**

- INFORMS Workshop on Data Science (October, 2023)
- Workshop on Information Technologies and Systems (WITS) (December, 2023)
- IEEE Intelligence and Security Informatics (2023)
- Bright Internet Global Summit (BIGS) (2022)
- INFORMS Workshop on Data Science (October, 2022)
- Workshop on Information Technologies and Systems (WITS) (December, 2022)
- INFORMS Workshop on Data Science (November, 2021)
- Bright Internet Global Summit (BIGS) (2021)
- Workshop on Information Technologies and Systems (WITS) (December, 2021)
- INFORMS Workshop on Data Science (November, 2020)
- Workshop on Information Technologies and Systems (WITS) (December, 2020)
- Design Science Research in Information Systems and Technology (June, 2019)
- INFORMS Workshop on Data Science (October, 2019)
- Workshop on Information Technologies and Systems (WITS) (December, 2019)
- INFORMS Workshop on Data Science (October, 2018)
- Workshop on Information Technologies and Systems (WITS) (December, 2018)
- IEEE Information Reuse and Integration for Data Science (IRI) (June, 2018)
- Pacific Conference on Information Systems (June, 2018)
- Workshop on Information Technologies and Systems (WITS) (December, 2017)
- INFORMS Conference on Data Science (October, 2017)
- Secure Knowledge Management (SKM) Workshop (October, 2017)

### **Editorial Board member for the following publications:**

- Journal of the Association for Information Systems, *Special Issue on Data Analytics for Social Good* (2020-2021)
- Information Systems Frontiers, *Special Issue on Digital Platforms and Ecosystems* (2020)
- Journal of Business Analytics (2018 - )

### **Invited Editor/Editorial Review Board for the following publications:**

- Information Systems Research Special Issue on “Unleashing the Power of Information Technology for Strategic Management of Disasters” (2021)
- Information Systems Frontiers (2020)
- Information Systems Frontiers (2019)
- Information Systems Frontiers (2018)
- Journal of Security Informatics (2018)

### **Reviewer for the following publications:**

- ACM Transactions on Management Information Systems
- American Behavioral Scientist
- Communications of the Association for Information Systems (CAIS)
- Communications of the International Information Management Association
- Cyber Defense Review
- Electronic Commerce Research and Applications
- Journal of the American Society for Information Science and Technology
- Journal of the Association for Information Systems

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- Journal of Business Analytics
- Journal of Management Information Systems
- IEEE Intelligent Systems
- IEEE Transactions on Human-Machine Systems
- INFORMS Journal on Computing
- Information Systems Frontiers
- Information Systems Research (ISR)
- International Conference on Information Systems
- International Journal of Electronic Commerce
- Management Information Systems (MISQ)

### **PROFESSIONAL ASSOCIATIONS**

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- Association for Information Systems (AIS), Member.
- Institute for Operations Research and the Management Sciences (INFORMS), Member.
- INFORMS College of AI, Member
- The Institute of Electrical and Electronics Engineers (IEEE), Member.
- The Association of Computing Machinery (ACM), Member.
- Committee on National Security Systems (CNSS):
  - CNSS 4011 – Information Systems Security Professionals
  - CNSS 4012 – Senior Systems Managers
  - CNSS 4016 – Risk Analyst