

# KYLE J. HUNT

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## CURRENT POSITION

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**Clinical Assistant Professor**, University at Buffalo  
Department of Management Science and Systems 2022-present

## EDUCATION

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**Ph.D.** Industrial Engineering (Operations Research) January 2023  
University at Buffalo

**M.S.** Industrial Engineering (Operations Research) May 2021  
University at Buffalo

**B.S.** Industrial Engineering December 2019  
University at Buffalo

## RESEARCH INTERESTS

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I am most interested in the implementation of operations research, game theory, machine learning, and decision analysis methodologies to address real-world problems. My primary research focuses on problems in homeland security, defense, and humanitarian management. I have an ardent interest in multidisciplinary projects that draw expertise from a broad range of scientific disciplines.

## TEACHING INTERESTS

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My teaching interests lie in the fields of analytics, operations research, information systems, and decision analysis. While I enjoy teaching the theoretical underpinnings of these fields, I am also passionate about teaching in a practice-oriented manner in which students understand the value of the skills they learn across the business and engineering domains.

## PREVIOUS ACADEMIC/ENGINEERING POSITIONS

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**Research Fellow**, University at Buffalo (UB) 2021-2023

**Lecturer**, UB 2022

**Teaching Assistant**, UB 2020-2022

**Research Assistant**, UB 2018-2021

**Research/Software Engineering Intern**, CUBRC, Inc. 2019

## HONORS AND AWARDS

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<b>Graduate Research Fellowship</b> , National Science Foundation (NSF)	2021-2023
<b>SUNY GREAT Award</b> , The State University of New York (SUNY)	2022
<b>Graduate Student Researcher of the Year</b> , University at Buffalo Department of Industrial and Systems Engineering (UB ISE)	2022
<b>Future Faculty Fellowship</b> , Institute of Industrial and Systems Engineers (IISE)	2021-2022
<b>Seth Bonder Scholarship for Applied Operations Research in Military and Security Applications</b> , Institute for Operations Research and the Management Sciences (INFORMS)	2021
<b>Harold O. Wolf Achievement Award</b> , University at Buffalo School of Engineering and Applied Sciences (SEAS)	2021
<b>Risk Policy and Law Merit Award</b> , Society for Risk Analysis (SRA)	2020
<b>Dean's Excellence Scholarship</b> , SEAS	2020
<b>Dean's Achievement Award</b> , SEAS	2019
<b>Decision Analysis and Risk Merit Award</b> , SRA	2019
<b>Research and Scholarship Award of Distinction</b> , UB	2019
<b>Research Experience for Undergraduates Award</b> , NSF	2018 and 2019
<b>Undergraduate Research Award</b> , UB	2017, 2018 and 2019
<b>Travel Award</b> , SRA	2019

## TEACHING EXPERIENCE

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### School of Management, UB

▪ MGS 616 – Predictive Analytics (55 students)	Spring 2023
▪ MGS 616 – Predictive Analytics (55 students)	Spring 2023
▪ MGS 614 – Systems Analysis & Design (34 students)	Spring 2023
▪ MGS 614 – Systems Analysis & Design (55 students)	Spring 2023
▪ MGS 616 – Predictive Analytics (54 students; rating: 4.9/5.0)	Fall 2022
▪ MGS 616 – Predictive Analytics (44 students; rating: 4.9/5.0)	Fall 2022

### SEAS, UB

▪ IE 320 – Engineering Economy (27 students; rating: 4.9/5.0)	Summer 2022
▪ IE 576* – Applied Stochastic Processes (23 students; rating: 4.8/5.0)	Spring 2022
▪ IE 508* – Quality Assurance (61 students; rating: 4.5/5.0)	Fall 2021
▪ EAS 202* – Engineering Impact on Society	Spring 2020

\* Courses in which I was a Teaching Assistant during my doctoral studies.

### *Published and Forthcoming Journal Articles*

1. **Hunt, K.**, P. Agarwal, and J. Zhuang, "On the Adoption of New Technology to Enhance Counterterrorism Measures: An Attacker-defender Game with Risk Preferences," *Reliability Engineering and System Safety*, 218: 108151, 2022.
2. **Hunt, K.**, A. Narayanan, and J. Zhuang, "Blockchain in Humanitarian Operations Management: A Review of Research and Practice," *Socio-Economic Planning Sciences*, 80: 101175, 2022.
3. **Hunt, K.**, P. Agarwal, and J. Zhuang, "Monitoring Misinformation on Twitter during Crisis Events: A Machine Learning Approach," *Risk Analysis*, 42(8), 1728-1748, 2022.
4. Chen, X., Y. Dong, **K. Hunt**, and J. Zhuang, "Counterterrorism Resource Allocation during a Pandemic: The Effects of Dynamic Target Valuations when Facing a Strategic Terrorist," *Risk Analysis*, <https://doi.org/10.1111/risa.13992>, 2022.
5. Ding, X., X. Zhang, R. Fan, Q. Xu, **K. Hunt**, and J. Zhuang, "Rumor Recognition Behavior of Social Media Users in Emergencies," *Journal of Management Science and Engineering*, 7(1): 36-47, 2022.
6. Xia, L., B. Chen, **K. Hunt**, J. Zhuang, and C. Song, "Food Safety Awareness and Opinions: A Social Network Analysis Approach," *Foods*, 11(18): 2909, 2022.
7. Song, C., S. Zhou, **K. Hunt**, and J. Zhuang, "Comprehensive Evolution Analysis of Public Perceptions Related to Pediatric Care: A Sina Weibo Case Study (2013-2020)," *SAGE Open*, 12(1): 21582440221087260, 2022.
8. Wan, Q., X. Xuanhua, **K. Hunt**, and J. Zhuang, "Stay Home or Not? Modeling Individuals' Decisions during the COVID-19 Pandemic," *Decision Analysis*, 19(4): 319-336, 2022.
9. **Hunt, K.**, P. Agarwal, and J. Zhuang, "Technology Adoption for Airport Security: Modeling Public Disclosure and Secrecy in an Attacker-defender Game," *Reliability Engineering and System Safety*, 207: 107355, 2021.
10. Dong, Y., X. Chen, **K. Hunt**, and J. Zhuang, "Defensive Resource Allocation: The Roles of Forecast Information and Risk Control," *Risk Analysis*, 41(8): 1304-1322, 2021.
11. Agarwal, P., **K. Hunt**, J. Zhuang, B. Sarkar, A. Sarkar, and R. Sharma. "An Exploratory Analysis for Performance Assessment of State Police Forces in India: An Eclectic Approach," *Operational Research*, 21(2): 1125-1151, 2021.
12. **Hunt, K.**, B. Wang, and J. Zhuang, "Misinformation Debunking and Cross-Platform Information Sharing through Twitter During Hurricanes Harvey and Irma: A Case Study on Shelters and ID Checks," *Natural Hazards*, 103(1): 861-883, 2020.

13. Agarwal, P., **K. Hunt**, S. Srinivasan, and J. Zhuang, "Fire Safety Code Inspection and Compliance: A Game-theoretic Model between Fire Inspection Agencies and Building Owners," *Decision Analysis*, 17(3): 208-226, 2020.
14. Song, C., C. Guo, **K. Hunt**, and J. Zhuang, "An Analysis of Public Opinions Regarding Take-Away Food Safety: A 2015-2018 Case Study on Sina Weibo," *Foods*, 9(4): 511, 2020.

#### ***Published Book Chapters***

1. **Hunt, K.** and J. Zhuang, "Blockchain for Disaster Management," In *Big Data and Blockchain for Service Operations Management*. Springer, 253-269, 2022.

#### ***Published Conference Proceedings***

1. **Hunt, K.**, P. Agarwal, and J. Zhuang, "A Multi-algorithm Approach for Classifying Misinformed Twitter Data during Crisis Events," *2019 IISE Conference Proceedings*, 1-6, 2020.

#### ***Published Magazine Articles***

1. **Hunt, K.**, P. Agarwal, R. Al Aziz, and J. Zhuang, "Fighting Fake News during Disasters," *OR/MS Today*, 47(1): 34-39, 2020.
2. **Hunt, K.**, P. Agarwal, and J. Zhuang, "Tracking Storms of Misinformation Spread amid Disasters," *ISE Magazine*, 51(9): 28-32, 2019.

#### ***Technical Reports***

1. Zhuang, J., R. Al Aziz, and **K. Hunt**, "Identifying and Analyzing the Factors that Influence Fluctuations in Undocumented Immigration at the Southwest U.S. Border," *Department of Homeland Security (DHS) Technical Report*, 2020.
2. Zhuang, J., R. Al Aziz, and **K. Hunt**, "A Novel Data-driven Model for Quantifying the Threats and Consequences of U.S. Border Risks," *DHS Technical Report*, 2020.

#### ***Submitted Journal Articles***

1. **Hunt, K.** and J. Zhuang, "A Review of Attacker-defender Games: Current State and Paths Forward," in revisions with *European Journal of Operational Research*.
2. Agarwal, P., **K. Hunt**, E. Jose, and J. Zhuang, "Shutdown and Compliance Decisions in the Face of a Viral Pandemic: A Game between Governments and Citizens during COVID-19," under review with *European Journal of Operational Research*.

#### ***Articles in Preparation***

1. **Hunt, K.** and J. Zhuang, "Technology Deployment and Information Disclosure in the Face of a Strategic Threat," *Target Journal: Operations Research*.

2. **Hunt, K.**, R. John, and J. Zhuang, “On the Disclosure of Defensive Posture: Adversarial Belief Formation and Target Selection Decisions in Security and Defense Settings,” Target Journal: *Management Science*.
3. **Hunt, K.**, V.R.R. Jose, and J. Zhuang, “Balancing Security and Congestion in Algorithm-enhanced Screening Queues,” Target Journal: *Management Science*.
4. **Hunt, K.**, and J. Zhuang, “Signaling the Effectiveness of Counterterrorism Technology,” Target Journal: *European Journal of Operational Research*.
5. **Hunt, K.**, B. Behlendorf, S. Mukherjee, and J. Zhuang, “Near-repeat Terrorism: Identifying and Analyzing the Spatiotemporal Attack Patterns of Major Terrorist Organizations,” Target Journal: *Decision Support Systems*.
6. Chowdhury, S.A., **Hunt, K.**, and J. Zhuang, “Reshoring the Manufacturing of Public Interest Goods: A Game Between Governments and Manufacturers,” Target Journal: *Naval Research Logistics*.

### ***Books in Preparation***

1. **Hunt, K.** and J. Zhuang, *Attacker-defender Games: Concepts, Techniques, and Applications*, contracted with Springer Nature.

### **RESEARCH GRANTS**

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1. **Co-PI** on project: “DDRIG in DRMS: Multi-target Technology Deployment and Information Disclosure in Attacker-defender Settings: Analyzing Game-theoretic Prescriptions and Human Decisions,” supported by NSF via the Decision, Risk, and Management Sciences (DRMS) program, PI: J. Zhuang serving as Hunt’s Ph.D. advisor, 2022-2023, \$15,325.

### **PRESENTATIONS**

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1. **Speaker**, “Technology Deployment and Information Disclosure in the Face of a Strategic Threat,” 2022 INFORMS Annual Meeting; Indianapolis, IN, October 18<sup>th</sup>, 2022.
2. **Co-author**, “Rumor Propagation and Clarification on Social Media During Crisis Events,” 2022 INFORMS Annual Meeting; Indianapolis, IN, October 16<sup>th</sup>, 2022.
3. **Speaker**, “Predictive Analytics and Python: An Introduction,” UB Masters in Business Analytics Orientation; Buffalo, NY, August 18<sup>th</sup>, 2022.
4. **Speaker**, “Near-repeat Terrorism: Identifying and Analyzing the Spatiotemporal Attack Patterns of Major Terrorist Organizations,” 2022 INFORMS Advances in Decision Analysis Conference; Rosslyn, VA, June 24<sup>th</sup>, 2022.
5. **Speaker**, “Models for Technology Adoption and Information Disclosure in Homeland Security,” 2022 INFORMS Advances in Decision Analysis Conference; Rosslyn, VA, June 23<sup>rd</sup>, 2022.

6. **Speaker**, “Managing Misinformation on Social Media during Disasters: Machine Learning and Game-theoretic Approaches,” 2022 INFORMS Computing Society Conference; Tampa, FL, January 24<sup>th</sup>, 2022.
7. **Speaker**, “Models for Technology Adoption and Information Disclosure in Homeland Security,” INFORMS Military and Security Society Awards Webinar; Virtual, December 16<sup>th</sup>, 2021.
8. **Speaker**, “Game Theory & Counterterrorism: Aligning Theoretical Insights with Operational Consideration,” 2021 SRA Annual Meeting; Virtual, December 7<sup>th</sup>, 2021.
9. **Speaker**, “On the Adoption of New Technology to Enhance Counterterrorism Measures: Attacker-defender Games,” 2021 INFORMS Annual Meeting; Anaheim, CA, October 26<sup>th</sup>, 2021.
10. **Speaker**, “Adopting Technology to Enhance Homeland Security: Attacker-defender Games,” United States Naval Academy Optimization and OR Conference; Virtual, June 2<sup>nd</sup>, 2021.
11. **Speaker**, “Technology Adoption for Airport Security: Attacker-defender Games,” 2020 SRA Annual Meeting; Virtual, December 17<sup>th</sup>, 2020.
12. **Speaker**, “Technology Adoption for Airport Security: Modeling Public Disclosure and Secrecy in an Attacker-defender Game,” 2020 INFORMS Annual Meeting; Virtual, November 9<sup>th</sup>, 2020.
13. **Speaker**, “Technology Adoption for Airport Security: Modeling Public Disclosure and Secrecy on Behalf of the Defender,” University of Oklahoma Research Series; Virtual, July 15<sup>th</sup>, 2020.
14. **Speaker**, “Monitoring Misinformation on Twitter during Crisis Events: A Machine Learning Approach,” 2019 SRA Annual Meeting; Arlington, VA, December 9<sup>th</sup>, 2019.
15. **Speaker**, “A Blockchain Framework to Improve Emergency Communications,” 2019 INFORMS Annual Meeting; Seattle, WA, October 23<sup>rd</sup>, 2019.
16. **Speaker**, “Tracking Misinformation on Social Media: A Machine Learning Approach,” 2019 INFORMS Annual Meeting; Seattle, WA, October 20<sup>th</sup>, 2019.
17. **Poster Presenter**, “The Spread of Misinformation on Social Media during Disasters: A Machine Learning Approach,” 2019 Conference on Risk Analysis, Decision Analysis and Security: Risk Analysis in the Digital Era; Niagara Falls, NY, July 31<sup>st</sup>, 2019.
18. **Speaker**, “Tracking Misinformation on Twitter during Disasters: A Machine Learning Approach,” 2019 IISE Annual Conference and Expo; Orlando, FL, May 19<sup>th</sup>, 2019.
19. **Poster Presenter**, “The Spread of Misinformation on Social Media during Disasters: A Machine Learning Approach,” 2019 Celebration of Student Academic Excellence; UB, NY, April 25<sup>th</sup>, 2019.
20. **Speaker**, “Tools and Methods to Identify and Control Misinformation on Social Media,” 2018 INFORMS Annual Meeting; Phoenix, AZ, November 5<sup>th</sup>, 2018.
21. **Speaker**, “Comparative Analysis of Rumor Debunking Efforts and Cross-Platform Sourcing through Twitter During Hurricanes Harvey and Irma,” 2018 INFORMS Annual Meeting; Phoenix, AZ, November 4<sup>th</sup>, 2018.

22. **Speaker**, “Communication and Misinformation: A Comprehensive Outlook at Disaster Response on Social Media,” 2018 Technology and Cybersecurity Forum; Niagara Falls, NY, October 24<sup>th</sup>, 2018.
23. **Speaker**, “Social Media and Strategic Government-media Engagement,” Afghanistan News Executives Meeting; UB, NY, August 7<sup>th</sup>, 2018.
24. **Speaker**, “Comparative Analysis of Rumor Debunking Efforts and Cross-Platform Sourcing through Twitter During Hurricanes Harvey and Irma,” ASCE Infrastructure Resilience Division Research Forum; Reston, VA, July 13<sup>th</sup>, 2018.
25. **Poster Presenter**, “Analyzing and Modeling the Spread of Misinformation on Twitter during Natural Disasters,” 2018 Natural Hazards Workshop and Researcher’s Meeting; Denver, CO, July 8<sup>th</sup>-12<sup>th</sup>, 2018.
26. **Poster Presenter**, “Analyzing and Modeling the Spread of Misinformation on Twitter during Natural Disasters,” 2018 Celebration of Student Academic Excellence; UB, NY, April 26<sup>th</sup>, 2018.
27. **Poster Presenter**, “Analyzing and Modeling the Spread of Misinformation on Twitter,” Industrial and Systems Engineering Poster Competition; UB, NY, March 30<sup>th</sup>, 2018 (*competition winner and first undergraduate to win in department’s history*).

## **PROFESSIONAL SERVICE**

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**Ad-Hoc Reviewer:** *European Journal of Operational Research; Socio-Economic Planning Sciences; Annals of Operations Research; Risk Analysis; Reliability Engineering and System Safety; Decision Analysis; Disasters; Naval Research Logistics; Technology in Society; GameSec Conference Proceedings; IISE Conference Proceedings*

**Conference Session Chair:** INFORMS Annual Meeting (2020, 2021, 2022); 2019 Conference on Risk Analysis, Decision Analysis and Security

**Co-chair, Best Paper Award Committee** 2022-present  
Data Analytics and Information Systems Division (DAIS), IISE

**Board Member** 2022-present  
DAIS, IISE

**Senior Project Review Panelist** 2021-present  
Westhill High School, Syracuse, NY

**Board Member, Early Career Representative** 2020-present  
Risk Policy and Law Specialty Group, SRA

**Diversity, Equity, and Inclusion (DEI) Fellow** 2022  
Decision Analysis Society, INFORMS

## UNIVERSITY SERVICE

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<b>Search Committee Member</b> Chief Information Security Officer, UB	2022-present
<b>Committee Member</b> Undergraduate Grievance Pool, School of Management, UB	2022-present
<b>DEI Training Panelist</b> SEAS	2021
<b>Adjudication Committee Member</b> SEAS	2021-2022
<b>Strategic Planning Committee Vice-chair</b> UB ISE	2018-2019

## MEDIA MENTIONS

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1. [“Eight UB students receive SUNY GREAT awards,”](#) UBNOW, February, 2022.
2. [“2022 SUNY GREAT Award Recipients,”](#) SUNY, February, 2022.
3. [“Bonder and Koopman Award Presentations,”](#) INFORMS Military and Security Society, January, 2022.
4. [“Our Host Interviews the 2021 Bonder Scholarship - Military Applications Winner Kyle Hunt,”](#) INFORMS, October, 2021.
5. [“Industrial engineering student wins Society for Risk Analysis Award,”](#) SEAS, February, 2021.
6. [“12 students recognized for outstanding achievements,”](#) SEAS, September, 2021.
7. [“Kyle Hunt: Capturing Big Data,”](#) Experiential Learning Network, UB, December, 2019.

## PROFESSIONAL AFFILIATIONS

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<b>Member</b>	
▪ SRA	2019-present
▪ INFORMS	2018-present
▪ IISE ( <i>Certified Six Sigma Green Belt</i> )	2017-present