KYLE J. HUNT

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CURRENT POSITION

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

EDUCATION

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

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

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

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

Graduate Research Fellowship, National Science Foundation (NSF)   2021-2023

SUNY GREAT Award, The State University of New York (SUNY)   2022

Graduate Student Researcher of the Year, University at Buffalo Department of Industrial and Systems Engineering (UB ISE)   2022

Future Faculty Fellowship, Institute of Industrial and Systems Engineers (IISE)   2021-2022

Seth Bonder Scholarship for Applied Operations Research in Military and Security Applications, Institute for Operations Research and the Management Sciences (INFORMS)   2021

Harold O. Wolf Achievement Award, University at Buffalo School of Engineering and Applied Sciences (SEAS)   2021

Risk Policy and Law Merit Award, Society for Risk Analysis (SRA)   2020

Dean's Excellence Scholarship, SEAS   2020

Dean's Achievement Award, SEAS   2019

Decision Analysis and Risk Merit Award, SRA   2019

Research and Scholarship Award of Distinction, UB   2019

Research Experience for Undergraduates Award, NSF   2018 and 2019

Undergraduate Research Award, UB   2017, 2018 and 2019

Travel Award, SRA   2019

TEACHING EXPERIENCE

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

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

1. **Speaker,** "Technology Deployment and Information Disclosure in the Face of a Strategic Threat," 2022 INFORMS Annual Meeting; Indianapolis, IN, October 18th, 2022.

2. **Co-author,** "Rumor Propagation and Clarification on Social Media During Crisis Events," 2022 INFORMS Annual Meeting; Indianapolis, IN, October 16th, 2022.

3. **Speaker,** "Predictive Analytics and Python: An Introduction," UB Masters in Business Analytics Orientation; Buffalo, NY, August 18th, 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 24th, 2022.

5. **Speaker,** "Models for Technology Adoption and Information Disclosure in Homeland Security," 2022 INFORMS Advances in Decision Analysis Conference; Rosslyn, VA, June 23rd, 2022.

6. **Speaker,** "Managing Misinformation on Social Media during Disasters: Machine Learning and Game-theoretic Approaches," 2022 INFORMS Computing Society Conference; Tampa, FL, January 24th, 2022.

7. **Speaker,** "Models for Technology Adoption and Information Disclosure in Homeland Security," INFORMS Military and Security Society Awards Webinar; Virtual, December 16th, 2021.

8. **Speaker,** "Game Theory & Counterterrorism: Aligning Theoretical Insights with Operational Consideration," 2021 SRA Annual Meeting; Virtual, December 7th, 2021.

9. **Speaker,** "On the Adoption of New Technology to Enhance Counterterrorism Measures: Attacker-defender Games," 2021 INFORMS Annual Meeting; Anaheim, CA, October 26th, 2021.

10. **Speaker,** "Adopting Technology to Enhance Homeland Security: Attacker-defender Games," United States Naval Academy Optimization and OR Conference; Virtual, June 2nd, 2021.

11. **Speaker,** "Technology Adoption for Airport Security: Attacker-defender Games," 2020 SRA Annual Meeting; Virtual, December 17th, 2020.

12. **Speaker,** "Technology Adoption for Airport Security: Modeling Public Disclosure and Secrecy in an Attacker-defender Game," 2020 INFORMS Annual Meeting; Virtual, November 9th, 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 15th, 2020.

14. **Speaker,** "Monitoring Misinformation on Twitter during Crisis Events: A Machine Learning Approach," 2019 SRA Annual Meeting; Arlington, VA, December 9th, 2019.

15. **Speaker,** "A Blockchain Framework to Improve Emergency Communications," 2019 INFORMS Annual Meeting; Seattle, WA, October 23rd, 2019.

16. **Speaker,** "Tracking Misinformation on Social Media: A Machine Learning Approach," 2019 INFORMS Annual Meeting; Seattle, WA, October 20th, 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 31st, 2019.

18. **Speaker,** "Tracking Misinformation on Twitter during Disasters: A Machine Learning Approach," 2019 IISE Annual Conference and Expo; Orlando, FL, May 19th, 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 25th, 2019.

20. **Speaker,** "Tools and Methods to Identify and Control Misinformation on Social Media," 2018 INFORMS Annual Meeting; Phoenix, AZ, November 5th, 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 4th, 2018.

22. **Speaker,** "Communication and Misinformation: A Comprehensive Outlook at Disaster Response on Social Media," 2018 Technology and Cybersecurity Forum; Niagara Falls, NY, October 24th, 2018.

23. **Speaker,** "Social Media and Strategic Government-media Engagement," Afghanistan News Executives Meeting; UB, NY, August 7th, 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 13th, 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 8th-12th, 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 26th, 2018.

27. **Poster Presenter**, "Analyzing and Modeling the Spread of Misinformation on Twitter," Industrial and Systems Engineering Poster Competition; UB, NY, March 30th, 2018 (*competition winner and first undergraduate to win in department's history*).

PROFESSIONAL SERVICE

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 Data Analytics and Information Systems Division (DAIS), IISE	2022-present
Board Member DAIS, IISE	2022-present
Senior Project Review Panelist Westhill High School, Syracuse, NY	2021-present
Board Member, Early Career Representative Risk Policy and Law Specialty Group, SRA	2020-present
Diversity, Equity, and Inclusion (DEI) Fellow Decision Analysis Society, INFORMS	2022

UNIVERSITY SERVICE

Search Committee Member   2022-present
Chief Information Security Officer, UB

Committee Member   2022-present
Undergraduate Grievance Pool, School of Management, UB

DEI Training Panelist   2021
SEAS

Adjudication Committee Member   2021-2022
SEAS

Strategic Planning Committee Vice-chair   2018-2019
UB ISE

MEDIA MENTIONS

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

Member
- SRA   2019-present
- INFORMS   2018-present
- IISE (*Certified Six Sigma Green Belt)*   2017-present