

Sydney J. Litterer

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Education

Doctor of Philosophy in Criminal Justice, August 2022-present
Michigan State University, East Lansing, MI

Bachelor of Science in Mechanical Engineering, Certificate in Peace Studies

University of Kentucky, Lexington, KY

Graduated May 2019, Summa Cum Laude (4.00 GPA)

Lewis Honors College

Research Experience

Michigan State University, School of Criminal Justice, East Lansing, MI – *Research Assistant*
August 2023-present

- Designed and led the execution of research projects involving collaborating with other scholars to advance research on domestic extremists' use of the internet
- Managed team of six data collectors and coders in order to explore the transferability of a set of extremism indicators to a new dataset
- Employed web scraping and snowball sampling to create an original dataset of posts from 300+ Telegram channels, enabling research on extremist organizations' use of the platform
- Leveraged machine learning, structural equation modeling, group-based trajectory modeling, and social network analysis to conduct rigorous analyses of large open-source datasets

RAND Corporation, Arlington, VA

July 2022-present – *Research Assistant, Adjunct*

- Conducted open-source data collection and visualization to inform research on public policy issues related to national security
- Collaborated with external partners to improve the design of research games supporting development and use of emerging technologies

July 2019-July 2022 – *Research Assistant*

- Conducted quantitative analysis and data visualization providing insight into critical issues related to national security, homeland security, and pandemic-related policies
- Conducted semi-structured interviews and qualitative analyses to synthesize insights from subject matter experts for project sponsors
- Wrote reports and created briefings presenting research design, analysis, results, and recommendations to communicate project results to policymakers, practitioners, and the public
- Created, assessed, and evaluated metrics and measurement frameworks to support evaluation efforts by project sponsors

- Collaborated with team members to design and execute research games informing national security decision making on short deadlines
- Administered an organization-wide crowdsourcing effort to identify future technological challenges, supporting smooth execution of the project before and during pandemic-related operational disruptions

University of Kentucky, Department of Political Science, Lexington, KY – *Undergraduate Research Student*
January-May 2019

- Employed multiple regression to conduct a comparative study of the impact of varying forms of violence on women’s legislative representation

University of Kentucky, Department of Mechanical Engineering, Lexington, KY –
Undergraduate Research Student
August-December 2017

- Set up, ran, and analyzed computational fluid mechanics models to verify the results of models employing novel simulation methods

Karlsruhe Institute of Technology, Institute for Material Handling and Logistics, Karlsruhe, Germany – *Undergraduate Research Student*
March-August 2016

- Created a computer model in MATLAB to understand the operational envelope for a robotic arm

Publications

Journal Articles

Litterer, S. (in press). Integrating Non-Lethal Weapons into Professional Wargames. *MORS Journal of Wargaming*.

Litterer, S., Scrivens, R., Wojciechowski, T. W., & Frank, R. (2025). Exploring the Evolution of Posting Behavior and Language Use in a Racially and Ethnically Motivated Extremist Forum. *Behavioral Sciences of Terrorism and Political Aggression*.

<https://doi.org/10.1080/19434472.2025.2486796>

Litterer, S. (2023). Conservative Anger and Police Misconduct: Exploring Conservative Discussion of Police on Social Media. *Deviant Behavior*.

<https://doi.org/10.1080/01639625.2023.2284284>

Peer-Reviewed Reports

Goldfeld, D. A., Mayer, L. A., Brown, J. S., Cochran, S., Hastings Roer, E., **Litterer, S.**, Mason, R., Mignano, J., McBirney, S., & Villegas, C. A. (2024). *Amping Airpower—Electric Vertical Takeoff and Landing for the U.S. Air Force: Military Utility, Market Dynamics, and Warfighter Adoption* (RR-A1524-2), Santa Monica, CA: RAND Corporation.

<https://doi.org/10.7249/RRA1524-2>

- Romita Grocholski, K., Savitz, S., **Litterer, S.**, Cooper, M., McKinney, C., & Ziebell, A. (2023). *Assessing the Impact of Diverse Intermediate Force Capabilities and Integrating Them into Wargames for the U.S. Department of Defense and NATO* (RR-A1544-1), Santa Monica, CA: RAND Corporation. <https://doi.org/10.7249/RRA1544-1>
- Litterer, S.**, Brookes, J., Worman, S., & Shlapak, D. (2023). *Network Logistics Games: Design and Implementation* (RR-A470-2), Santa Monica, CA: RAND Corporation. <https://doi.org/10.7249/RRA470-2>
- Parker, E., Gonzales, D., Kochhar, A. K., **Litterer, S.**, O'Connor, K., Schmid, J., Scholl, K., Silberglitt, R., Chang, J., Eusebi, C. A., & Harold, S. W. (2022). *An Assessment of the U.S. and Chinese Industrial Bases in Quantum Technology* (RR-A869-1), Santa Monica, CA: RAND Corporation. <https://doi.org/10.7249/RRA869-1>
- Romita Grocholski, K., Savitz, S., Wong, J. P., **Litterer, S.**, Khan, R., & Cooper, M. (2022). *How to Effectively Assess the Impact of Non-Lethal Weapons as Intermediate Force Capabilities* (RR-A654-1), Santa Monica, CA: RAND Corporation. <https://doi.org/10.7249/RRA654-1>
- Martin, B., Linick, M. E., Fraade-Blanar, L., Gardner Burns, J., Foran, C., Romita Grocholski, K., Hastings, K. C., **Litterer, S. J.**, Lynch, K.F., & Mondschein, J. (2021). *Measuring Strategic Readiness: Identifying Metrics for Core Dimensions* (RR-A453-1). Santa Monica, CA: RAND Corporation. <https://doi.org/10.7249/RR-A453-1>
- Mayer, L. A., Schmid, J., **Litterer, S. J.**, & Blumenthal, M. S. (2021). *A Structured Elicitation Approach to Identify Technology-Based Challenges With Application to Inform Force Planning for Technological Surprise* (RR-A701-1), Santa Monica, CA: RAND Corporation. <https://doi.org/10.7249/RR-A701-1>
- Wirth, A. J., **Litterer, S.**, Loredó, E. N., Baldwin, L. H., & Sanchez, R. (2021). *Keeping the Defense Industrial Base Afloat During COVID-19: A Review of Department of Defense and Federal Government Policies and Investments in the Defense Industrial Base* (RR-A1392-1), Santa Monica, CA: RAND Corporation. <https://doi.org/10.7249/RRA1392-1>

Other Publications

- Romita Grocholski, K., Savitz, S., **Litterer, S.**, Cooper, M., McKinney, C., & Ziebell A. (2024). *Integrating Intermediate Force Capabilities into Wargames* (RB-A1544-2), Santa Monica, CA: RAND Corporation. <https://doi.org/10.7249/RBA1544-2>
- Romita Grocholski, K., Savitz, S., **Litterer, S.**, Cooper, M., McKinney, C., & Ziebell A. (2024). *Intermediate Force Capabilities: High-Value Options for the U.S. Military* (RB-A1544-1), Santa Monica, CA: RAND Corporation. <https://doi.org/10.7249/RBA1544-1>
- Litterer, S.** & Romita Grocholski, K. (2022, April 22). Effective Use of Nonlethal Weapons Could Require Combating Disinformation. *RealClearDefense*. [Link to article](#).
- Romita Grocholski, K., Savitz, S., Wong, J. P., **Litterer, S.**, Khan, R., & Cooper, M. (2022). *Evaluating the Use of Non-Lethal Weapons in Operational Environments* (RB-A654-1), Santa Monica, CA: RAND Corporation. <https://doi.org/10.7249/RBA654-1>

Works in Progress

Litterer, S., Brewer, R., Cale, J., & Goldsmith, A. (in progress). Understanding the Impact of Self Control, Deviant Peers, and Technology Use on Juvenile Cyber Aggression.

Litterer, S. (in progress). Understanding Online Promotion of Offline Activity by Content Curators in the Active Club Network.

Serious Games

Litterer, S., Daniel, N., & Tran, V. (2024). Andromeda's Galaxy [digital game]. Abrams Planetarium.

- Designed and created an educational game playable on the dome of the Abrams Planetarium that teaches students in grades 7-12 about constellations and mythology

Conference Presentations

Litterer, S. “‘Get Active!’: Understanding Extremists’ Online Recruitment and Mobilization Messaging.” Presentation at the Michigan State University Graduate Academic Conference, East Lansing, MI. February 22, 2025.

Litterer, S. “Understanding Youth Cyber Aggression from a Criminological Perspective.” Presentation at the Michigan State University Graduate Academic Conference, East Lansing, MI. February 22, 2025.

Litterer, S. “The Evolution of Language and Behavior in a White Supremacist Forum.” Presentation at the Oxford Internet Policy & Politics Conference 2024, Virtual. January 27, 2024.

Litterer, S. “‘I Only Wish To Inspire’: How Mass Murderers Communicate through Manifestos.” Presentation at the American Society of Criminology 2023 Annual Meeting, Philadelphia, PA. November 15, 2023.

Accepted Abstracts

Litterer, S., Scrivens, R., Holt, T. J., & Chermak, S. “Examining Right-Wing Extremist Telegram Groups and Channels.” Abstracted accepted to American Society of Criminology Annual Meeting, San Francisco, California, USA. November 13-16, 2024.

Litterer, S. “The Role of Self-Control and Online and Offline Peers in Youth Sharing of Hateful Content,” Abstracted accepted to American Society of Criminology Annual Meeting, San Francisco, California, USA. November 13-16, 2024.

Browne, O. M. F., **Litterer, S.,** & Brehm, C. “A Biglobal Stability Solver on Block-Structured Cartesian Domain-Decomposed Irregular Domains.” Abstract accepted to 30th International Conference on Parallel Computational Fluid Dynamics, Indianapolis, Indiana, USA. May 14-17, 2018.

Invited Speaking Engagements

Litterer, S., & Witwer A. (equal contributors). “Career Opportunities in Applied Research.” Professional development presentation at Michigan State University, School of Criminal Justice. March 26, 2025.

Litterer, S., & Witwer A. (equal contributors). “Applying to Applied Research Positions.” Professional development presentation at Michigan State University, School of Criminal Justice. February 7, 2024.

Litterer, S. “How Mass Murders Communicate through Manifestos.” Guest lecture at Boston University, Department of Political Science. October 25, 2023.

Litterer, S., & Witwer A. (equal contributors). “Careers in Applied Research.” Guest lecture at Michigan State University, School of Criminal Justice. August 30, 2023.

Litterer, S. “Gaming Contested Logistics: A Case Study from J4 Gaming.” Presentation for the RAND Center for Gaming Brown Bag Innovations Series. May 3, 2022.

Grants and Fellowships

Awarded

Graduate School, Michigan State University, *University Distinguished Fellowship*, 2022

- Awarded to approx. 40 incoming graduate students at Michigan State University each year; provides 5 years of full funding for graduate studies

College of Social Science, Michigan State University, *Early Start Program Fellowship*, 2022

- Non-competitive award providing 4 years of funding for summer research to students who advance the educational diversity of their program

Honorable Mentions

National Science Foundation, Graduate Research Fellowship Program, *Honorable Mention*, 2023

Awards and Achievements

Frank Tomascik Endowed Scholarship, 2024

RAND Corporation, Spotlight Award, 2021

Commonwealth of Virginia, Engineer-in-Training designation, 2020

Department of Political Science, University of Kentucky, Best Peace Studies Capstone Project, 2019

Department of Mechanical Engineering, University of Kentucky, Outstanding Junior in Mechanical Engineering, 2017

University of Kentucky, Patterson Scholarship (full tuition, room and board), 2014

- Academic scholarship based on finalist position in the National Merit Scholarship competition – *Valued at approx. \$140,000*

National Merit Scholarship, 2014

Academic Service

Mentor, Graduate Student Network, School of Criminal Justice, Michigan State University, August 2024-present

Treasurer, Graduate Student Association, School of Criminal Justice, Michigan State University, January 2023-April 2024

Mentor, Early Start Program, College of Social Science, Michigan State University, June 2023-December 2023

Skills

Research Methods:

Quantitative: Multiple regression, structural equation modeling, group-based trajectory modeling (basic social network analysis, geospatial analysis, agent-based modeling, and machine learning)

Qualitative: Reflexive thematic analysis; logic model and metric development; serious game design and implementation

Data Collection:

Web scraping with Python and R, semi-structured interviewing, snowball sampling

Computer Programs:

Statistics: R, Stata

Other data analysis and modeling: Python, Dedoose, NVivo, ArcGIS, (basic MATLAB, NetLogo, and Visual Basic for Applications)

Engineering: Solidworks, NX, Autodesk Inventor, Creo Parametric, Revit, AutoCAD LT, Abaqus

Communication: Technical writing, public speaking, data visualization in R

Languages: Speak basic French and German

Industry Experience

Ethicon, Cincinnati, OH – *Co-op*

May-August 2018, May-August 2017, August-December 2016

- Led a component redesign process to address product safety concerns by collaborating with colleagues to identify and assess potential redesign options and by developing and testing component prototypes
- Designed components and test fixtures for manufacture using solid modeling programs
- Informed product design by developing predictive models for component behavior and providing statistically sound product recommendations based on experimentation and data analysis

- Managed 7 committees with a total of 50 members organizing classes, volunteering opportunities, and networking events for co-ops

Engineering Ministries International, Calgary, AB, Canada – *Intern*

January 2018-May 2018

- Worked with a multidisciplinary team of engineers and architects on a project supporting a non-profit based in Haiti
- Identified a food safety issue arising from the layout of gardens and septic systems on the client's property and provided recommendations for addressing the problem
- Designed electrical plans and drafted architectural drawings for multiple buildings using Revit and AutoCAD, incorporating knowledge of practical constraints on construction in Haiti
- Wrote/compiled a final report for the client to provide guidance for future planning and construction efforts

Capital One Summit for Developing Leaders, Plano, TX – *Summit Participant*

January 2016

- Chosen through a competitive application process to attend a weeklong professional development summit
- Developed a solution for a business problem relevant to Capital One in collaboration with team members, presenting the team's work to a panel of Capital One executives

Study Abroad

Semester Exchange Program – Karlsruhe Institute of Technology, Karlsruhe, Germany, March-August 2016

Calculus III Education Abroad Program, Karlsruhe, Germany, June-July 2015

Community Volunteer Experience

Okemos Community Food Pantry, Okemos, MI, June 2024-present

- Prepare food packages for distribution to families experiencing food insecurity

People's Church Fine Arts Committee, East Lansing, MI, August 2024-present

- Arrange and staff exhibitions by local artists and other artistic events
- Provide information technology services to the committee

The Knitting People, East Lansing, MI, October 2022-May 2024

- Knit and crocheted blankets and clothing items for donation to young families and individuals experiencing illness or homelessness

Highlands Urban Garden, Arlington, VA, August 2021-June 2022

- Grew and harvested food for local food banks

Read to Succeed, Lexington, KY, August 2017-May 2019

- Led a weekly children's reading program designed to improve reading proficiency, primarily serving recent immigrants

International Friends, Lexington, KY, Jan 2015-May 2019

- Provided one-on-one support to international students attending the University of Kentucky by answering questions about cultural differences and offering opportunities to practice conversational English