

# Catherine King

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## PROFILE

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Postdoctoral Fellow in Policy in the School of Computer Science at Carnegie Mellon University, working at the intersection of technology, AI, and public policy. Computational social scientist developing scalable, policy-relevant interventions to combat misinformation using network science, social media analytics, surveys, and user studies.

**Research interests:** misinformation; social media analytics; computational social science; network science; AI; technology policy

## EDUCATION

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**Carnegie Mellon University** – *Ph.D. in Societal Computing* 2025

Software and Societal Systems Department

Dissertation: [Effective and Practical Strategies for Combatting Misinformation](#)

Committee: Kathleen M. Carley (Chair), Hong Shen, Chris Labash, Pablo Barberá

**The College of William & Mary** – *M.S. in Computational Operations Research* 2016

Capstone: *Optimizing voter wait times* ([simulation](#) and [paper](#))

Advisor: Lawrence M. Leemis

**The College of William & Mary** – *B.S. in Mathematics, Minor in Computer Science* 2014

Summa cum laude, Honors in Mathematics

Thesis: [Nonlinear models of zooplankton communities](#)

Committee: Sarah Day (Advisor), Drew LaMar (Advisor), Mark Brush, Lawrence M. Leemis

## PUBLICATIONS

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### Under Review

- **King, C.**, Phillips, S. C., and Carley, K. M. (2025). [Public support for misinformation interventions depends on perceived fairness, effectiveness, and intrusiveness](#). *The Journal of Online Trust and Safety*.

### Peer-Reviewed

- **King, C.** and Carley, K. M. (2025). [Promoting Social Corrections: A Media Literacy Intervention for Misinformation on Social Media](#). *Proceedings of the 2025 SBP-BRiMS Conference*.
- **King, C.**, Carragher, P., and Carley, K. M. (2025). [Mapping the Scientific Literature on Misinformation Interventions: A Bibliometric Review](#). *ICWSM Workshop Proceedings*.
- **King, C.**, Phillips, S. C., and Carley, K. M. (2025). [A path forward on online misinformation mitigation based on current user behavior](#). *Scientific Reports*. [[Blog Post](#)]
- Moffitt, J. D., **King, C.**, and Carley, K. M. (2024). [Connecting the Domains: An Investigation of Internet Domains found in COVID-19 Conspiracy Tweets](#) *Computational and Mathematical Organization Theory*.
- **King, C.** and Carley, K. M. (2023). [Gender dynamics on Twitter during the 2020 Democratic Presidential Primary](#). *Social Network Mining and Analysis* (2023) [[Blog Post](#)]
- Moffitt, J. D., **King, C.**, and Carley, K. M. (2021). [Hunting Conspiracy Theories during the COVID-19 Pandemic](#), *Social Media + Society*. [[Blog Post](#)]
- Bellutta, D., **King, C.**, and Carley, K. M. (2021). [Deceptive accusations and concealed identities as misinformation campaign strategies](#). *Computational and Mathematical Organization Theory*.
- **King, C.**, Bellutta, D. and Carley, K. M. (2020). [Lying about lying on social media: a case study of the 2019 Canadian elections](#). *Proceedings of the 2020 SBP-BRiMS Conference*. [**BEST PAPER AWARD**]

- Glasser, S. and King, C. (2019). [System dynamics for estimating sUAS operations](#). *Proceedings of the 2019 Winter Simulation Conference*.
- King, C. and Leemis, L. M. (2016). [Data analysis and simulation: Optimizing voter wait times](#). *Proceedings of the 2016 IEEE Systems and Information Engineering Design Symposium*.
- King, C., Shipman, K., Day, S., and LaMar, M. D. (2013). [Dimension and mortality in linear stage class models of \*Acartia tonsa\*](#). *Proceedings of the Sixth Symposium on Beer*.

## Technical Reports

- King, C., Lepird, C. S., and Carley, K. M. (2021). [Project OMEN: Designing a Training Game to Fight Misinformation on Social Media](#). Carnegie Mellon University, Institute for Software Research.

## Poster Presentations

- King, C. and Carley, K. M. (2024). Leveraging Media Literacy Training to Promote Social Corrections. *IDeaS and SBP-BRiMS Conferences*.
- King, C., Carragher, P., and Carley, K. M. (2023). Citation Network Analysis of Misinformation Interventions. *SBP-BRiMS Conference*.

## FELLOWSHIPS AND AWARDS

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- **Knight Fellow (2020 – 2025):** Transdisciplinary research fellowship (project yielded two papers: *Scientific Reports* and one under review at *Social Media + Society*).
- **Best Paper Award (2020):** SBP-BRiMS Conference, *Lying about lying on social media on social media*.
- **“Fan Favorite” Award (2016):** MODSIM World conference competition; runner-up for the judge’s award (<https://faster-voting.wm.edu/>).
- **3<sup>rd</sup> place, WINFORMS Student Excellence Award (2016):** original research in Operations Research.
- **Luther T. Connor Prize (2014):** Mathematics department award, determined by faculty.
- **1<sup>st</sup> place, Undergraduate Research Competition (2013):** International Symposium on Biomathematics and Ecology Education and Research conference (presentation and manuscript).

## RESEARCH EXPERIENCE

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### Carnegie Mellon University – Research Assistant 2019 – 2025

- Designed and fielded surveys on social media user behavior and perceptions of misinformation countermeasures
- Co-developed Project OMEN, a training game for government analysts to improve misinformation detection and countering abilities
- Created and tested a media literacy intervention, evaluated effectiveness via a controlled user study
- Conducted a bibliometric analysis of 400+ misinformation intervention papers
- Quantified gendered dynamics and hate speech toward U.S. presidential candidates in 2020
- Produced 7+ peer-reviewed publications, multiple conference presentations

### The College of William and Mary – Research Assistant 2012 – 2014

- Modeled zooplankton-phytoplankton dynamics in the Chesapeake Bay
- Presented research at multiple mathematics conferences
- Resulted in an Honors thesis in Mathematics

## TEACHING EXPERIENCE

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### Carnegie Mellon University – Teaching Assistant 2019 – 2025

- *Dynamic Network Analysis* (graduate level) – Led recitation sessions for 1 semester.
- *CASOS Summer Institute* – Delivered modules (2020-2024) on hashtag community analysis, the OMEN exercise, one- and two-mode metrics and folding, and network comparison/prediction.
- *OMEN Exercise* (2024) – Led training sessions on misinformation detection and countering.

**The College of William & Mary – Teaching Assistant / Grader**

2013 – 2016

- TA for *Calculus II* (4 semesters) and *Introduction to Mathematical Biology* – led labs and office hours
- Grader for multiple advanced mathematics courses, including *ODEs* and *Mathematical Statistics*.

**PROFESSIONAL EXPERIENCE**

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**MITRE – Data Scientist**

2018 – 2020

- Built spectrum consumption models and conducted analysis in Java.
- Co-developed a system dynamics model forecasting UAV adoption rates in the U.S.
- Supported Army manpower modeling efforts via linear regression models and economic analyses.

**Genworth – IT Analyst / Modeling Analyst**

2016 – 2018

- Maintained and developed actuarial models in MATLAB, SAS, and R
- Implemented long-term care projection simulations in MATLAB

**ACADEMIC AND COMMUNITY SERVICE**

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- **Peer Reviewer** – *New Media & Society*, *Social Media + Society*, *Behavioral Sciences of Terrorism and Political Aggression*, SBP-BRiMS, and IDEaS Conference
- **Mentor (2024)**
  - Managed three high school interns in a directed reading program
  - Trained interns to categorize misinformation intervention types
- **CMU Graduate Student Association (GSA) Representative (2023 – 2025)**
  - Planned and budgeted for social events for students in the Societal Computing Ph.D. program
  - Liaised with department leadership and advocated for student issues
- **CMU GSA, External Affairs Committee Member (2020 – 2025)**
  - Recruited >20 CMU students to be poll workers during the 2020 poll worker shortage
  - Met with congressional staff on graduate student issues (e.g. "[CHIPS and Science Act](#)")
  - Registered students to vote in advance of the 2022 elections
- **Election Judge / Poll Worker, Pittsburgh Precinct 10-12 (2020 – present)**
  - Manage election day operations and supervise poll workers
  - Ensure ballot security and fairness, and certify the precinct's results

**SKILLS**

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**Technical:** R, Python, ORA, MATLAB, LaTeX (proficient); Java, SQL, SAS (familiar)**Methods:** Social network analysis, bibliometric analysis, survey analysis, regression modeling, simulation**Languages:** English (native), Italian (heritage)