

Una Joh

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· Research Interests

I study how computational systems represent information (1) to support human sensemaking at scale and (2) when computational systems themselves become users of that information.

- (1) Computational Social Science, Text Mining, Public Opinion, Computational Narrative Analysis
- (2) Human-Centered AI, AI Agents and Memory, Personalization in AI Systems

· Education

Ph.D. in Information Science and Technology (ABD)

Syracuse University

Expected May 2027

Syracuse, NY, USA

Dissertation: *Computational Representations for Corpus Sensemaking: Interpretable Themes and Latent Narratives*

Develops computational methods for analyzing large-scale public discourse through (1) interpretable topic modeling with sparse autoencoders and (2) a framework for discovering latent narratives in social media. Both are applied to U.S. immigration discourse to represent thematic and narrative structures at scale.

Advisor: Dr. Jeff Hemsley; Committee: Dr. Bei Yu, Dr. Joshua Introne, and Dr. Yiqi Li

M.A. in Economics

Sungkyunkwan University (SKKU)

Aug 2022

Seoul, Korea

Thesis: *Analysis of Real Estate Market Using News-Based Sentiment Index*

Bachelor of Economics

Sungkyunkwan University (SKKU)

Aug 2020

Seoul, Korea

· Publications and Manuscripts

Refereed Journal Articles

- [J3] Joh, U., Khoury, C., Smith, A. O., Duan, Y., & Hemsley, J. (2026). Climate communication in the stormy transition of Twitter to X. *Information, Communication & Society*, 29(9), 2716–2734. <https://doi.org/10.1080/1369118X.2025.2590556>
- [J2] Li, Y., Mitiaeva, M., Deng, X., Joh, U., & Zhang, Y. (2025). Straddling the boundary of misleading information group: Exploring the association between network brokerage and morality expressions. *Journal of Media Psychology: Theories, Methods, and Applications*, 37(5), 323–332. <https://doi.org/10.1027/1864-1105/a000482>
- [J1] Duan, Y., Hemsley, J., Smith, A. O., Joh, U., Gray, L., & Khoury, C. (2024). Curating virality: Exploring curated logics within #BlackLivesMatter on Twitter/X. *Social Media + Society*, 10(2). <https://doi.org/10.1177/20563051241242799>

Refereed Conference Proceedings

- [C7] Li, Y., Yang, A., & **Joh, U.** (2027, forthcoming). Who drives online community fragmentation? Disentangling social influence and network structure in cyberbalkanization. In *Proceedings of the 60th Hawaii International Conference on System Sciences (HICSS 60)*.
- [C6] **Joh, U.**, & Yu, B. (2026, forthcoming). Beyond top words: MonoTM for topic modeling with interpretable monosemantic features. In *Findings of the Association for Computational Linguistics: ACL-IJCNLP 2026*. [arXiv]
- [C5] **Joh, U.**, Li, Y., & Hemsley, J. (2026). How growing toxicity manifests: A topic trajectory analysis of U.S. immigration discourse on social media. *Proceedings of the International AAAI Conference on Web and Social Media*, 20(1), 1129–1158. <https://doi.org/10.1609/icwsm.v20i1.42686>
- [C4] Smith, A. O., Cousin, C., **Joh, U.**, Khoury, C., Duan, Y., & Hemsley, J. (2025). Towards memetic legitimization of knowledge: Memes and cultural heritage. *Information Research: An International Electronic Journal*, 30(iConf), 618–626. <https://doi.org/10.47989/ir30iConf47260>
- [C3] Smith, A. O., **Joh, U.**, & Hemsley, J. (2025). Does Google dream of electric memes? From human to computational culture. *Information Research: An International Electronic Journal*, 30(iConf), 287–300. <https://doi.org/10.47989/ir30iConf47350>
Best Full Research Paper Award
- [C2] Duan, Y., Khoury, C., **Joh, U.**, Smith, A. O., Cousin, C., & Hemsley, J. (2024). Comparing climate change content and comments across Instagram Reels, TikTok, and YouTube Shorts and long videos. *Proceedings of the Association for Information Science and Technology*, 61(1), 103–114. <https://doi.org/10.1002/pra2.1012>
- [C1] Khoury, C., Owen-Smith, A., **Joh, U.**, Duan, Y., & Hemsley, J. (2023). Multi-modal crisis discourse and collective sensemaking on TikTok. *Proceedings of the Association for Information Science and Technology*, 60(1), 203–212. <https://doi.org/10.1002/pra2.781>

Refereed Conference Posters

- [P3] **Joh, U.**, Liu, Q., & Zhang, B. (2026, forthcoming). When AI memory fails: Reframing LLM agent memory as a knowledge organization problem. *Proceedings of the Association for Information Science and Technology*.
- [P2] Smith, A. O., **Joh, U.**, & Hemsley, J. (2025). An indexed account of ephemeral culture: Algorithmic contexts of memes. *Proceedings of the Association for Information Science and Technology*, 62(1), 1678–1680. <https://doi.org/10.1002/pra2.1506>
- [P1] Duan, Y., Khoury, C., Smith, A. O., **Joh, U.**, & Hemsley, J. (2023). Comparing crisis communication on TikTok and YouTube: A case study of the 2023 California floods. *Proceedings of the Association for Information Science and Technology*, 60(1), 949–951. <https://doi.org/10.1002/pra2.908>

Non-Archival Conference Extended Abstracts

- [E2] **Joh, U.**, & Introne, J. (2024, July 18–20). *A psychological model of narrative diffusion* [Conference presentation]. 10th International Conference on Computational Social Science, Philadelphia, PA, United States.
- [E1] Sun, Q., **Joh, U.**, & Introne, J. (2024, July 18–20). *Empirical validation of a model of narrative diffusion* [Conference presentation]. 10th International Conference on Computational Social Science, Philadelphia, PA, United States.

Manuscripts Under Review

- [U3] **Joh, U., Stromer-Galley, J., & Li, Y. (2026).** *From message similarity to communicative repertoires in coordinated political advertising* [Manuscript under review at the 21st International AAAI Conference on Web and Social Media (ICWSM 2027)].
- [U2] **Joh, U., & Zhang, B. (2026).** *Same personality setting, different assistance? Auditing personality controls in AI assistants* [Manuscript under review at the ACM CHI Conference on Human Factors in Computing Systems (CHI 2027)].
- [U1] **Joh, U., & Zhang, B. (2026).** *Memory Use and personalization in AI assistants* [Working title during blind review; manuscript under review at ACL Rolling Review (ARR), August 2026 cycle].

Teaching Experience

Lab Session Instructor

2023–2026

Syracuse University

Syracuse, NY, USA

Introduction to Applied Data Science (IST 387)

Fall 2023; Spring/Fall 2025; Spring 2026

Led six practice-based lab sections (approximately 25 students each) across four semesters for undergraduates in data analytics and related majors with prior programming experience. Reinforced foundational data science concepts through R exercises and live coding; graded homework, exams, and team projects; held office hours; and received separate teaching evaluations.

Guest Lecturer

2023–2026

Syracuse University

Syracuse, NY, USA

Understanding Large Language Models: Theory and Practice (IST 700)

Instructor: Dr. Bei Yu

Mechanistic Interpretability

Apr 15, 2026

Introduced how mechanistic interpretability can explain internal representations of large language models, using sparse autoencoders as a central example.

Attention in Transformers

Feb 11, 2026

Explained how attention represents contextual relationships, connecting conceptual foundations with a hands-on implementation.

Research Experiences for Undergraduates (REU)

Computational Social Science Research Process

Jun 21, 2024

Introduced the research process from research questions and data collection through analytical design, interpretation, and broader implications.

Influencers in Network Social Media (IST 400)

Instructor: Dr. Yiqi Li

Text Analysis and Topic Modeling

Apr 17, 2023

Introduced computational text analysis and topic modeling for studying social media discourse, with an applied Twitter-data demonstration in R.

Teaching Assistant

Sungkyunkwan University

2020–2021

Seoul, Korea

International Finance (ECO 3015)

Fall 2020; Fall 2021

Labor Economics (ECO 3009)

Spring 2021

Public Finance (ECO 2010)

Spring 2021

Honors and Awards

Summer Dissertation Fellowship, Syracuse University

May 2026

Selected from a competitive pool of more than 70 applicants; awarded \$4,500 in support of dissertation research.

Research Excellence Dissertation Grant, Syracuse University

Nov 2025

Selected from a competitive pool (approximately 25% acceptance rate); awarded \$2,500 in support of dissertation research.

Top 6 Finalist, SIG-SM Social Media Research Competition, Association for Information Science and Technology

Nov 2025

Selected as a finalist (37.5% acceptance rate) and invited to present at the SIG-SM Social Media Workposium.

Best Full Research Paper Award, iConference

Mar 2025

Co-authored as second author, with a focus on data analysis.

Brain Korea 21 Research Scholarship, National Research Foundation of Korea

Fall 2020–

Merit-based monthly stipend for excellent students from research-focused departments.

Summer 2022

Samsung Fellowship, Samsung Foundation

Mar 2012

Merit-based scholarship for excellence in the college entrance examination; full scholarship for four years of undergraduate study.

Professional Service

Peer Reviewer

International AAAI Conference on Web and Social Media (ICWSM)

2025, 2026

Association for Information Science and Technology (ASIS&T)

2023, 2026

ACM Transactions on Social Computing

2026

Hawaii International Conference on System Sciences (HICSS)

2026

Scientific Reports

2026

Discover Global Society

2026

International Conference on Computational Social Science (IC2S2)

2024, 2025

Departmental Service

Personnel Committee, Syracuse University

Fall 2024–Spring 2025

Agenda Committee, Syracuse University

Fall 2023

· Skills

Programming Languages Python, R, SQL, SPARQL, Neo4j, Stata, ArcGIS
Korean (native), English (fluent)

· References

Dr. Jeff Hemsley

Professor

School of Information Studies, Syracuse University

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Dr. Yiqi Li

Assistant Professor

School of Information Studies, Syracuse University

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Dr. Bei Yu

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