SACHITA NISHAL

nishalsach.github.io nishal@u.northwestern.edu

RESEARCH INTERESTS

I design and evaluate interactive interfaces to support knowledge-workers in search and sense-making. I do this to support news discovery in science journalism. My work draws from Human-Computer Interaction, Natural Language Processing, and Responsible AI.

EDUCATION

Northwestern University, Evanston, IL Sep 2020 - Present
Ph.D. in Technology and Social Behavior Expected Jun 2025
(Joint Program in Computer Science and Communication Studies)
Advisor: Dr. Nick Diakopoulos

Birla Institute of Technology and Science (BITS) Pilani, Goa, India Aug 2016 - Jun 2020
Bachelor of Engineering (Honours), Computer Science
Thesis Advisor: Dr. Luís Amaral

TECHNICAL SKILLS

Data Analysis and Machine Learning
Python (NumPy, Pandas, SciPy, statsmodels, scikit-learn, PyTorch, Keras, spaCy, HuggingFace Transformers, NLTK), R (dplyr, igraph), SQL
Information Visualization
Python (Matplotlib, seaborn, plotnine), R (ggplot2)
Interface Building
Python (streamlit, tkintr), HTML/CSS

RESEARCH EXPERIENCE

Computational Journalism Lab, Northwestern University Sep 2020 - Present
Graduate Student Researcher
With my advisor Dr. Nick Diakopoulos, I design and evaluate interfaces that use approaches from HCI, NLP and ML to allow science reporters to discover + sift through + make sense of complex scientific documents. To this end, I develop algorithms and prototype interfaces for human-AI interaction, as well as conduct user studies, interviews, and surveys, to evaluate how AI-infused interfaces can support users' professional requirements, creativity, and workflows.
Published/presented work at CSCW 2022, CHI 2023, FAccT 2023, and several journalism conferences.

Microsoft Research, India May 2020 - Aug 2020
Research Intern
With my mentor Dr. Joyojeet Pal, I developed and validated datasets, topic models, and social network models for analyzing Twitter interactions between politicians and popular celebrities, with a focus on investigating partisanship and agenda-setting in the Indian electoral context. I focused on modelling these network dynamics, and generating data visualizations to represent them for research papers and presentations.
Published work at CSCW 2022, ICWSM 2022 and COMPASS 2022.

Amaral Lab, Northwestern University Jul 2019 - Dec 2019
Research Intern
Guided by Dr. Luís Amaral, I mined, aggregated, and documents datasets about film tropes from across TV Tropes, Rotten Tomatoes, IMDb and the American National Film Registry. I created network models

to study the relationship between novelty in American films, as expressed via their use of cinematic tropes, and the critical and commercial success they receive.
Working paper for ICWSM 2024.

WORKING PAPERS

S. Nishal and N. Diakopoulos. Understanding Practices around Computational News Discovery Tools in the Domain of Science Journalism *Under Review for CSCW 2024*.

S. Nishal and N. Diakopoulos. Configuring and Shaping Newswork in HCI: A Systematic Literature Review. *Working Paper*.

S. Nishal and D. Gergle. Information Seeking Patterns Supported in Interfaces for Large Language Models: A Scoping Review. *Working Paper*.

ARCHIVAL PUBLICATIONS

S. Nishal and N. Diakopoulos. 2022. From Crowd Ratings to Predictive Models of Newsworthiness to Support Science Journalism. *Proc. ACM Hum.-Comput. Interact. 6, CSCW2, Article 441* (November 2022), 28 pages. https://doi.org/10.1145/3555542 **(CSCW 2022)**

R. Mothilal, D. Mishra, **S. Nishal**, F. Lalani, and J. Pal. 2022. Voting with the Stars: Analyzing Partisan Engagement between Celebrities and Politicians in India. *Proc. ACM Hum.-Comput. Interact. 6, CSCW1, Article 134* (April 2022), 29 pages. https://doi.org/10.1145/3512981 **(CSCW 2022)**

A. Arya, S. De, D. Mishra, G. Shekhawat, A. Sharma, A. Panda, F. Lalani, P. Singh, R. Mothilal, R. Grover, **S. Nishal**, S. Dash, S. Rashid, S. Akbar, J. Pal. DISMISS: Database of Indian Social Media Influencers (Snowballed Sequentially) on Twitter. *Proceedings of the International AAAI Conference on Web and Social Media*. 16, 1 (May 2022), 1201-1207. https://doi.org/10.1609/icwsm.v16i1.19370 **(ICWSM 2022)**

S.Z. Akbar, A. Sharma, D. Mishra, R.K. Mothilal, H. Negi, **S. Nishal**, A. Panda, and J. Pal. Devotees on an Astroturf: Media, Politics, and Outrage in the Suicide of a Popular FilmStar. In *Proceedings of the 5th ACM SIGCAS/SIGCHI Conference on Computing and Sustainable Societies*, 453–475. https://doi.org/10.1145/3530190.3534801 **(COMPASS 2022)**

SELECTED NON-ARCHIVAL PAPERS, TALKS AND POSTERS

S. Nishal and E. Ulken. (2023). Building and Evaluating Trustworthy Tools with Generative AI in your Newsroom. Talk delivered at *SRCCON 2023*.

S. Nishal. Designing Interactive, Configurable and Transparent Algorithmic Systems to Support Journalistic Decision-Making. Doctoral Consortium at the *ACM Conference on Fairness, Accountability, and Transparency* **(FAccT 2023)**

S. Nishal and N. Diakopoulos. Envisioning the Applications and Implications of Generative AI in the Newsroom. In Workshop on Generative AI and HCI at the *ACM Conference on Human Factors in Computing Systems* **(CHI 2023)**

SERVICE

Reviewer for CSCW (2022, 2023*, 2024), CHI (2023, 2024), NeurIPS (2024), DIS (2023*), UIST (2023*), AAAI's AI Magazine (2023), NordiCHI (2022)
** indicates special recognition*

Last Updated: October 2023