Sayantan **Bhattacharya**

DATA SCIENTIST · PHD CANDIDATE

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Interest

Social Computing, Computational Social Science, Collective Action, Machine Learning, Natural Language Processing

Current Position

Collaboratorium for Social Media and Online Behavioral Studies *Little Rock, AR*

GRADUATE RESEARCH ASSISTANT / PHD CANDIDATE *Aug. 2022 - Present*

- **Project**: "Developing Socio-computational Approaches to Mitigate Collective Action-based Socio-cognitive Security Threats in a Multi-platform Multimedia-rich Information Environment". The project is funded by the U.S. Army Research Office (ARO) Social and Cognitive Networks Program.
- As a part of Collective Action Research study, currently working on analyzing Social Movement and Election related discourse through the lens of Socio-Technical/AI Framework.
- Spearheaded research efforts within the Indo-Pacific initiative focusing on Malaysian political discourse, resulting in actionable insights into voter behavior patterns during 2022 election.
- Amid Taiwan's 2024 presidential election, research into the anti-disinformation campaign leverages large language models to decode role symbols that articulate political identities and strategic narratives.

Education

PhD in Computer & Information Science *Little Rock, AR, USA*

UNIVERSITY OF ARKANSAS AT LITTLE ROCK *AUG. 2022 - Present*

- As a student from Information Science department, currently working as a research assistant.
- Completed Dissertation Proposal

Masters of Science in Information Science *Little Rock, AR, USA*

UNIVERSITY OF ARKANSAS AT LITTLE ROCK *AUG. 2022 - May 2024*

- **Project**: Identifying Influential Actors using Contextual Focal Structure Analysis

Bachelor of Engineering in Information Technology *Bardhaman, WB, India*

UNIVERSITY INSTITUTE OF TECHNOLOGY, THE UNIVERSITY OF BURDWAN *2011 - 2015*

- **Project**: A Novel Model to Remove Multiplicative Noise

Experience

Data Science Intern *Little Rock, AR, USA*

ARKANSAS DEPT. OF EDUCATION *May. 2023 - Aug. 2023*

- Contributed to the deployment of "Arkansas LEARN," ensuring smooth integration and post-launch stability.
- Served as Backend and Frontend developer for different module in LEARN application.
- Conducted detailed analysis and addressed critical bugs, enhancing system reliability.

Application Developer Senior Analyst *Kolkata, WB, India*

ACCENTURE *Aug. 2021 - Aug. 2022*

- Developed end-to-end solution with Master Data Management (MDM) and Product User Interfaces.
- Participated in product-related bug fixing and coordinated with support teams by raising tickets in provided platforms.
- Delivered multiple deployments, meeting project deadlines and ensuring robust functionality.

Associate Developer *Kolkata, WB, India*

COGNIZANT TECHNOLOGY SOLUTIONS *May. 2016 - Aug. 2021*

- Understanding domain (Healthcare, Banking/Finance and Insurance) methodologies and functionalities.
- Involved in large scale data analysis and data loading activities.
- Contributed to end-to-end solution with Master Data Management (MDM) and Product User Interfaces.
- Fixed identified issues and worked with applications to implement necessary code changes.
- Developed, modified, and reviewed testing components based on defined specifications and tests.
- Designed and implemented match configurations that improved data accuracy, enhancing the overall quality of data integration processes within Master Data Management (MDM) systems for more reliable outputs.

Awards & Grants

2024	**DCSTEM Travel Award**, Received on Fall 2024	*Little Rock, USA*
2024	**Graduate School Travel Award**, Received in Fall 2024	*Little Rock, U.S.A*
2024	**Student Research and Creative Works Expo**, Received 3rd Prize on Spring 2024	*Little Rock, U.S.A*
2023	**Student Research and Creative Works Expo**, Received 1st Prize on Spring 2023	*Little Rock, U.S.A*

Presentation

2024 Americas Conference on Information Systems (AMCIS)

Saltlake City, Utah

PRESENTED PAPER ON COLLECTIVE ACTION FRAMEWORK

Aug. 2024

- **Paper**: A Computational Approach to Analyze Identity Formation: A Case Study of Brazil Insurrection

17th International Conference on Social Computing, Behavioral-Cultural Modeling & Prediction and Behavior Representation in Modeling and Simulation.)

Pittsburg, Pennsylvania

PRESENTED PAPER ON INFLUENTIAL AGENTS IN SOCIAL NETWORK

Aug. 2024

- **Paper**: Ablation studies in protest networks: The role of influential agents in shaping protests

Hawaii International Conference on System Sciences(HICCS)

Big Island, Hawaii

PRESENTED PAPER ON ROLE OF KEY USERS IN CONTRIBUTING TO COLLECTIVE IDENTITY FORMATION

Jan. 2025

- **Paper**: The Amplifiers of Dissent: Examining Influence of Key Users and Content Modality on Collective Actions

Skills

Programming Languages, Python, Javascript

Hard Skills, Machine Learning, Data Visualization, Statistical Analysis

Soft Skills, Problem Solving, Critical Thinking, Interpersonal Skills

Publication

- **S Bhattacharya**, B Spann, and N Agarwal. Solidarity to Storming: Assessing the Socio-Technical Factors Behind Modern Social Movements. European Conference of Information System (ECIS), 2024. Paphos, Cypress
- **S Bhattacharya**, N Agarwal, and D Poudel. Ablation studies in protest networks: The role of influential agents in shaping protests. International Conference on Social Computing, Behavioral-Cultural Modeling, SBP-BRiMS 2025. Pittsburg, Pennsylvania
- **S Bhattacharya**, B Spann, and N Agarwal. A Computational Approach to Analyze Identity Formation: A Case Study of Brazil Insurrection. American Conference of Information System (AMCIS), 2024. Saltlake City, Utah
- **S Bhattacharya**, N Agarwal, and D Poudel. The Amplifiers of Dissent: Examining Influence of Key Users and Content Modality on Collective Actions. 58th Hawaii International Conference on System Sciences (HICCS-58). Big Island, Hawai.
- **S Bhattacharya**, N Agarwal, and D Poudel. Analyzing the Impact of Symbols in Taiwan's Anti-Disinformation Campaign on TikTok during Elections. Journal of Social Network Analysis and Mining (SNAM) 14.
- **S Bhattacharya**, N Agarwal. Decoding Digital Dissent through Focal Network Structures. 13th International Conference on Complex Networks & Their Applications. Istanbul, Turkey
- D Poudel, **S Bhattacharya**, N Agarwal. Digital Symbols and Democratic Trust. Americas Conference in Information System. Montreal, Canada
- **S Bhattacharya**, N Agarwal, and D Poudel. The Viral Nature of Symbols: Epidemiological Modeling of Visual Elements in Digital Information Campaigns. CySoc 2025 (6th International Workshop on Cyber Social Threats at ICWSM 2025)
- **S Bhattacharya**, N Agarwal, and D Poudel. The Persuasive Power of Visual Elements in Strategic Communication. The 17th International Conference on Advances in Social Networks Analysis and Mining-ASONAM-2025
- **S Bhattacharya**, N Agarwal, and D Poudel. The Persuasive Power of Visual Elements in Strategic Communication. The 17th International Conference on Advances in Social Networks Analysis and Mining-ASONAM-2025
- **S Bhattacharya**, N Agarwal, and D Poudel. The Persuasive Power of Visual Elements in Strategic Communication. International Conference on Social Computing, Behavioral-Cultural Modeling. Pittsburg, Pennsylvania-SBP-BRiMS 2025