

MD MAIN UDDIN RONY

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RESEARCH INTEREST

My research lies at the intersection of computer science, information science, and journalism, focusing on leveraging computational approaches like data analysis, machine learning and natural language processing to develop trustworthy and scalable AI systems that improve information quality, ensure equitable access to knowledge, and address the societal impacts of AI on human interaction, decision-making, and the broader information ecosystem.

EDUCATION

PhD Candidate, Information Studies

August 2019 - May 2025 (Expected)

The University of Maryland, College Park, MD

CGPA: 3.85/4.00

Adviser: [Dr. Naeemul Hassan](#)

Dissertation: An In-depth Analysis and Intervention of Misleading News Headlines Through a Fusion of Human Insights and AI Solutions

MSc, Engineering Science (emphasis Computer Science)

January 2017 - July 2019

The University of Mississippi, University, MS

CGPA: 3.86/4.00

Thesis: Towards Misleading Connection Mining

Adviser: [Dr. Naeemul Hassan](#)

BSc, Computer Science and Engineering

2009 - 2014

BUET (Bangladesh University of Engineering and Technology), Dhaka, Bangladesh

Thesis: Study on ATM/POS Switching Software for Banks

Adviser: [Dr. Md. Mostofa Akbar](#)

EXPERIENCES

Research Experience

Research Assistant, The University of Maryland, College Park

January 2020 - July 2022

[Philip Merrill College of Journalism](#)

- Carried out a comprehensive review of misleading news headlines, including its characterization, existing algorithms from a data mining perspective, and representative datasets.
- Explored the potential of Large Language Models (LLMs) to identify and explain misleading news headlines.
- Studied the impact of news headlines of health-related news articles on creating audience engagement.
- Developed a visual analytic system that integrates natural language processing and machine learning methods with interactive visualizations to facilitate the fact-checking process.

Research Assistant, The University of Mississippi

January 2017 - July 2019

[Data Exploration and Research Laboratory](#)

- Built a supervised classification model based on distributed subword embedding technique to identify clickbait content and analyzed a large corpus of Facebook posts created by 153 media organizations to understand the extent of clickbait practice, its impact, and user engagement on the web.
- Developed a clickbait solution framework (*BaitBuster*) consisting of a browser extension and social bot which eyes to improve the web surfing experience of general users.
- Explored the posts curated from the Facebook pages of two primary candidates of US Presidential Election, 2016 to conduct a comparative study of their election campaigning and strategies.
- Analyzed thousands of news articles to examine the frequency of uses of social media content as a source in news, processing of content, and social status of cited sources.
- Captured structural, topical, and semantic patterns of health-related news articles in order to build classification models that identify the source (reliable or unreliable) of news articles.

Teaching Experience

Instructor of the Record, The University of Maryland
College of Information

Fall 2024

- INST 447 Data Sources and Manipulation

Teaching Assistant, The University of Maryland
College of Information

- INST 126 Introduction to Programming for Information Science Fall 2019, Fall 2022 - Spring 2024
- INST 377 Dynamic Web Applications Spring 2025

Industry Experience

HCI Research Intern, **Adobe Research**
Systems Technology Lab

May 2021 - August 2021

- Designed an AI app that can augment visualizations with advanced types of insights to facilitate decision-making.

Software Engineer, **Infolytx Inc.**
Data Analytics Team

June 2015 - December 2016

- Carried out analysis of the given data, drawing conclusions and developing recommendations, inferences, time series analysis using different Machine learning algorithms and statistical techniques.
- Prepared data for data visualization and graphical report generation.

Jr. Software Engineer, **Nascenia IT**
Web Development Team

July 2014 - June 2015

- Consumed different third party provided APIs and payment gateway for providing business solutions.

PUBLICATIONS

Peer-Reviewed Conference Publications

- **Md Main Uddin Rony**, Saransh Grover, Farhana Uddin, Yoo yeon Sung, Mohammad Ali, Syed Ishtiaque Ahmed, Naeemul Hassan. *Collaborative Insights on Perceptions and Corrections of Misleading News Headlines from Journalists and News Consumers*. (Under Review)
- **Md Main Uddin Rony**, Md Mahfuzul Haque, Mohammad Ali, Ahmed Shatil Alam, Naeemul Hassan. *Exploring the Potential of the Large Language Models (LLMs) in Identifying Misleading News Headlines*. In Proceedings of the 2024 Workshop on Human-centered Evaluation and Auditing of Language Models (Co-located with CHI conference 2024), Honolulu, Hawaii, USA, May, 2024.
- **Md Main Uddin Rony**, Fan Du, Ryan A. Rossi, Jane Hoffswell, Niyati Chhaya, Iftikhar A. Burhanuddin, Eunye Koh. *Augmenting Visualizations with Predictive and Investigative Insights to Facilitate Decision Making* In Companion Proceedings of the Web Conference 2023, May, 2023.
- Maria D. Molina, S Shyam Sundar, **Md Main Uddin Rony**, Naeemul Hassan, Thai Le, Dongwon Lee. *Does Clickbait Actually Attract More Clicks? Three Clickbait Studies You Must Read*. In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems, pp. 1-19. 2021.
- **Md Main Uddin Rony**, Enamul Hoque, Naeemul Hassan. *ClaimViz: Visual Analytics for Identifying and Verifying Factual Claims*. In Proceedings of the IEEE Information Visualization Conference, October, 2020.
- Sameer Dhoju, **Md Main Uddin Rony**, Muhammad Ashad Kabir, Naeemul Hassan. *Differences in Health News from Reliable and Unreliable Media*. In Proceedings of the 2019 International Workshop on Misinformation, Computational Fact-Checking and Credible Web (Co-located with The Web Conference 2019), San Francisco, CA, USA, May, 2019.
- **Md Main Uddin Rony**, Naeemul Hassan, Mohammad Yousuf. *BaitBuster: A Clickbait Identification Framework*. In Proceedings of the 32nd AAAI Conference on Artificial Intelligence (AAAI-18), New orleans, Louisiana, USA, February, 2018.
- **Md Main Uddin Rony**, Naeemul Hassan, Mohammad Yousuf. *Diving Deep into Clickbaits: Who Use Them to What Extents in Which Topics with What Effects?*. In Proceedings of 2017 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2017), July, 2017.

Peer-Reviewed Journal Publications

- Ronald Yaros, Md Mahfuzul Haque, **Md Main Uddin Rony**, Naeemul Hassan. *Testing effects of the amount of information and style in headlines on selection and interactivity*. (Under Review)
- Sameer Dhoju, **Md Main Uddin Rony**, Muhammad Ashad Kabir, Naeemul Hassan. *A Large-Scale Analysis of Health Journalism by Reliable and Unreliable Media*. In Proceedings of the Studies in Health Technology and Informatics, Volume 264, pages 93-97, August 2019. DOI10.3233/SHTI190190.

Other Works (Peer-reviewed Conferences (non-archival), Thesis)

- **Md Main Uddin Rony**, Saransh Grover, Farhana Uddin, Yoo yeon Sung, Mohammad Ali, Syed Ishtiaque Ahmed, Naeemul Hassan. *Perceptions and Corrections of Misleading News Headlines: Insights from Journalists and News Consumers*. In 2024 Computation+Journalism Symposium (C+J 2024), Boston, Massachusetts, October, 2024.
- Mohammad Ali, **Md Main Uddin Rony**, Naeemul Hassan. *Analyzing visual frames and crisis attributions: A supervised machine learning approach*. In Proceedings of the International Crisis and Risk Communication Conference, Florida, USA, March, 2024.
- Ron Yaros, Md Mahfuzul Haque, **Md Main Uddin Rony**, Naeemul Hassan. *Varying amounts of information in health news headlines can affect user selection and interactivity*. In Proceedings of the Association for Education in Journalism and Mass Communication (AEJMC) conference, San Francisco, USA, August, 2020.
- **Md Main Uddin Rony**. *Towards Misleading Connection Mining*. MSc Thesis. University of Mississippi. July 2019.
- **Md Main Uddin Rony**, Mohammad Yousuf, Naeemul Hassan. *A Large-scale Study of Social Media Sources in News Articles*. In 2019 Computation+Journalism Symposium (C+J2019), Florida, February, 2019.
- Md Mahfuzul Haque, Mohammad Yousuf, Zahedur Arman, **Md Main Uddin Rony**, Ahmed Shatil Alam, Kazi Mehedi Hasan, Md Khadimul Islam, Naeemul Hassan. *Fact-checking Initiatives in Bangladesh, India, and Nepal: A Study of User Engagement and Challenges*. In Computation+Journalism Symposium (C+J2019), Florida, February, 2019.
- Sima Bhowmik, **Md Main Uddin Rony**, Md Mahfuzul Haque, Kristen Alley Swain, and Naeemul Hassan. *Examining the Role of Clickbait Headlines to Engage Readers with Reliable Health-related Information*. 2019 AAAI Fall Symposium: AI for Social Good Program.
- Naeemul Hassan, Mohammad Yousuf, **Md Main Uddin Rony**. *"I found this on Facebook/Twitter": Use of Social Media as Source*. The 2nd Annual Conference on Politics and Computational Social Science (PaCSS), Washington DC, USA, 2019.
- Mohammad Yousuf, Naeemul Hassan, **Md Main Uddin Rony**. *"All the President's tweets": A Large-scale Study of Uses of Social Media Content in Online News*. In Association for Education in Journalism and Mass Communication (AEJMC), Washington, DC, USA, August 2018
- Mohammad Yousuf, Naeemul Hassan, **Md Main Uddin Rony**. *Social Media as Source: A Large-scale Study of Mainstream and Unreliable News Sites*. In Association for Education in Journalism and Mass Communication (AEJMC) Midwinter conference, Oklahoma, USA, March, 2018.
- Mohammad Yousuf, Naeemul Hassan, **Md Main Uddin Rony**. *Boon or Bane for Political Engagement: A Large-Scale Study of Normalization of Facebook*. In 68th International Communication Association (ICA) annual conference, Prague, Czech Republic, May, 2018.
- **Md Main Uddin Rony**, Naeemul Hassan, Mohammad Yousuf. *BaitBuster: Destined to Save You Some Clicks*. In Computation+Journalism Symposium (C+J2017), Illinois, October, 2017.

PATENT

Facilitating generation and presentation of advanced insights. **Md Main Uddin Rony**, Fan Du, Iftikhar Ahamath Burhanuddin, Ryan Rossi, Niyati Himanshu Chhaya, Eunye Koh. U.S. Patent 11,829,705, issued November 28, 2023.

PRESENTATIONS

- **Presenter**, Poster titled *Augmenting Visualizations with Predictive and Investigative Insights to Facilitate Decision Making* May, 2023
Companion Proceedings of the ACM Web Conference 2023, Austin, Texas, USA
- **Presenter**, Poster titled *ClaimViz: Visual Analytics for Identifying and Verifying Factual Claims* October, 2020
2020 IEEE Visualization Conference (VIS), Virtual Conference (Due to Pandemic)
- **Presenter**, Workshop paper titled *Differences in Health News from Reliable and Unreliable Media* May, 2019
MisinfoWorkshop 2019, San Francisco, CA, USA.
- **Presenter**, Poster titled *A Large-scale Study of Social Media Sources in News Articles* February, 2019
Computation+Journalism Symposium (C+J2019), Miami, Florida, USA
- **Presenter**, Poster titled *BaitBuster: Destined to Save You Some Clicks* February, 2018
AAAI Conference on Artificial Intelligence (AAAI-18), New Orleans, Louisiana, USA
- **Presenter**, Poster titled *BaitBuster: Destined to Save You Some Clicks* October, 2017
Computation+Journalism Symposium (C+J2017), Illinois, USA
- **Presenter**, Conference Paper titled *Diving Deep into Clickbait: Who Use Them to What Extents in Which Topics with What Effects?* July, 2017
IEEE/ACM Conference on Advances in Social Networks Analysis and Mining, Sydney, Australia
- **Presenter**, Poster titled *We Dived Deep into Clickbait: You won't Believe what Happened Next!* April, 2017
University of Mississippi Research Day, University, Mississippi, USA

MEDIA COVERAGE

- *Studies suggest finding automatic ways to spot fake news may be more complicated than anticipated.* June 2021.
<https://techxplore.com/news/2021-06-automatic-ways-fake-news-complicated.html>
- *Clickbait headlines grow in mainstream media.* March 2018. <https://newslab.org/clickbait-headlines-grow-mainstream-media/>

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, C, C++, R, Ruby, Assembly Language(Intel 8086), L^AT_EX
- **Web Programming:** Flask, Ruby on Rails, HTML, CSS, JavaScript, jQuery, XML, SOAP, REST, JSON
- **Data Technology:** Scikit-learn, Keras, Matplotlib, D3.js, Bokeh, Google Cloud Natural Language
- **DBMS:** MySQL, Oracle, PostgreSQL, MongoDB(NoSQL)
- **Version Control System:** Git

AWARDS

- **Doctoral Student Research Award (DSRA)**, University of Maryland, College Park 2024
- **Dr. Dana Rotman Doctoral Student Travel Award**, University of Maryland, College Park 2023
- **Graduate school Travel Award**, University of Mississippi 2019, 2018, 2017
- **CS Department Travel Award**, University of Mississippi 2019

SERVICE AND OUTREACH

- **Doctoral Student Representative:** Faculty Search Committee, University of Maryland, College Park
- **PC Member:** CySoc Workshop 2024
- **Reviewer:** Journalism Practice, Humanities & Social Sciences Communications (Nature), Quality & Quantity Journal, Journal of Data and Information Quality (JDIQ), CSCW 2020, NSysS 2020, Web Conference 2019, CIKM 2018, Web Conference 2018, JDIQ 2018
- **Webmaster:** Muslim Student Association of The University of Mississippi (2018 - 2019)

REFERENCES

Available upon request