

# Anirban Saha Anik

Ph.D. Student in Computer Science and Engineering

University of North Texas • Denton, Texas, USA

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## Research Interests

Trustworthy and Human-Centered Natural Language Processing; Large Language Models; Retrieval-Augmented Generation; Multi-Agent Systems; Knowledge Graphs; Health Misinformation; Crisis Informatics.

## Education

### University of North Texas

Ph.D. in Computer Science and Engineering; GPA: 4.00/4.00

Denton, TX

January 2026–Present

- Advisors: [Dr. Lingzi Hong](#) and [Dr. Song Fu](#).
- Expected graduation: December 2028.

### University of North Texas

M.S. in Data Science; GPA: 4.00/4.00

Denton, TX

December 2025

### American International University-Bangladesh

B.Sc. in Computer Science and Engineering; CGPA: 3.59/4.00

Dhaka, Bangladesh

December 2021

## Academic Experience

### Research Appointments

#### Graduate Research Assistant

May 2025–Present

University of North Texas; Advisor: [Dr. Lingzi Hong](#)

Denton, TX

- Conduct research on retrieval-augmented generation, knowledge-graph systems, and large language models for trustworthy health communication and crisis response.
- Develop multi-agent and hierarchical knowledge-graph frameworks for evidence-grounded counterspeech, audience-adaptive explanations, and spatiotemporal crisis communication.
- Design benchmarks and evaluation protocols for factuality, retrieval quality, explanation granularity, and human-centered language generation.
- Contribute as a graduate researcher to two Institute of Museum and Library Services National Leadership Grants for Libraries: [LG-256661-OLS-24](#) and [LG-256666-OLS-24](#).

#### Research Assistant

May 2022–December 2022

American International University-Bangladesh; Advisor: [Md. Kishor Morol](#)

Dhaka, Bangladesh

- Conducted medical-data research using deep learning for disease detection and contributed to studies on educational assessment and pandemic prediction.
- Mentored undergraduate researchers in experimental design, model development, evaluation, and scholarly writing.

### Teaching Appointments

#### Graduate Teaching Assistant

Spring 2025

INFO 4709: Data Visualization and Communication, University of North Texas

Denton, TX

- Guided students in data visualization and analysis using R, Tableau, and Power BI; evaluated assignments and projects and held office hours.

#### Graduate Teaching Assistant

Fall 2024

DTSC 3010: Introduction to Data Science, University of North Texas

Denton, TX

- Supported instruction in Python, SQL, data analysis, and introductory machine learning; provided individualized feedback and academic support.

#### Teaching Assistant

Fall 2021

Introduction to Database, American International University-Bangladesh

Dhaka, Bangladesh

- Supported instruction in SQL, relational schema design, and database implementation; held office hours and troubleshooting sessions.

## Research Mentoring

- **Research Advisor, UNT AI/CS Summer Research Program** (2025–2026). Advised student teams on AI and NLP research.
- **TAMS/Undergraduate Summer Research Mentor** (2025–2026). Mentored Diana Zhang, Elliott Wang, Eric Liu, and Bengisu Yarimbas in research design, model development, evaluation, and scholarly writing.
- **Graduate and Undergraduate Research Mentor**. Guided research teams participating in research competitions and trained students in problem formulation, research design, experimentation, evaluation, and scholarly communication.

## Peer-Reviewed Publications

1. X. Song, **Anirban Saha Anik**, J. Liu, Q. Tan, G. Yuan, and L. Hong. “Ask or Answer: A Decision Framework for Multi-Turn Health Misinformation Intervention.” *Findings of the Association for Computational Linguistics: EMNLP 2026*.
2. M. Rashid, N. Baniya, **Anirban Saha Anik**, X. Song, and L. Hong. “SciClaimSeekers at CheckThat! 2026: Retrieving Scientific Sources for Social Media Claims with LLM Reranking.” *Working Notes of CLEF 2026*. [[arXiv](#)]
3. D. Zhang, X. Song, M. Rashid, **Anirban Saha Anik**, J. Ding, and L. Hong. “VeriFind at CheckThat! 2026: Enhancing Numerical Claim Verification via Fine-Tuned LLMs.” *Working Notes of CLEF 2026*.
4. F. S. Hasan, **Anirban Saha Anik**, E. Liu, X. Song, M. Rashid, and L. Hong. “SourceMinds at CheckThat! 2026: NLI-Grounded Citation Auditing in a Multi-Agent Pipeline for Full Fact-Checking Article Generation.” *Working Notes of CLEF 2026*. [[arXiv](#)]
5. **Anirban Saha Anik**, X. Song, E. Wang, B. Wang, B. Yarimbas, and L. Hong. “Multi-Agent Retrieval-Augmented Framework for Evidence-Based Counterspeech Against Health Misinformation.” *Conference on Language Modeling (COLM 2025)*. [[OpenReview](#)] **Runner-Up, SIG-SM Social Media Research Competition 2025**.
6. X. Song, **Anirban Saha Anik**, E. Blanco, V. Frías-Martínez, and L. Hong. “A Dynamic Fusion Model for Consistent Crisis Response.” *Findings of the Association for Computational Linguistics: EMNLP 2025*. [[ACL Anthology](#)]
7. X. Song, **Anirban Saha Anik**, D. Barua, P. Luo, J. Ding, and L. Hong. “Speaking at the Right Level: Literacy-Controlled Counterspeech Generation with RAG-RL.” *Findings of the Association for Computational Linguistics: EMNLP 2025*. [[ACL Anthology](#)] **Honorable Mention, SIG-SM Social Media Research Competition 2025**.
8. **Anirban Saha Anik**, M. F. K. Chowdhury, A. Wyckoff, and S. R. Choudhury. “ClaimIQ at CheckThat! 2025: Comparing Prompted and Fine-Tuned Language Models for Verifying Numerical Claims.” *Working Notes of CLEF 2025*. [[Paper](#)]
9. X. Song, **Anirban Saha Anik**, V. Frías-Martínez, and L. Hong. “Dynamic Fusion of Large Language Models for Crisis Communication.” *International Conference on Information Systems for Crisis Response and Management (ISCRAM 2025)*. [[DOI](#)]
10. M. Arman, N. Prottush, M. A. Rusho, A. Datta, **Anirban Saha Anik**, D. M. Dohan, M. A. U. I. Sajid, I. A. Sheikh, and M. K. Jahan. “A Hybrid Attention-Guided Fusion Network with Grad-CAM for MPox Skin Lesion Classification.” *4th International Conference on Computing and Machine Intelligence (ICMI 2025)*. [[IEEE Xplore](#)]
11. S. S. Das, **Anirban Saha Anik**, M. K. Morol, and M. S. Mahmood. “Outcome-Based Education: Evaluating Students’ Perspectives Using Transformer.” *27th International Conference on Computer and Information Technology (ICCIT 2024)*. [[DOI](#)]
12. S. S. Das, **Anirban Saha Anik**, M. M. Hossain, M. K. Morol, F. Jahan, and M. A. Al-Jubair. “A Study on Future Lockdown Predictions Using ANN.” *International Conference on Next-Generation Computing, IoT and Machine Learning (NCIM 2023)*. [[DOI](#)]
13. **Anirban Saha Anik**, K. Chakraborty, B. Datta, A. Kader, and M. K. Morol. “A Comparative Analysis for the Detection of COVID-19 from Chest X-ray Dataset.” *International Conference on Recent Progresses in Science, Engineering and Technology (ICRPSET 2022)*. [[DOI](#)]

## Manuscripts Under Review

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1. **Anirban Saha Anik**, X. Song, S. Kanuganti, J. Yuan, S. Fu, and L. Hong. “Granularity-Aligned Health Misinformation Refutation with Knowledge Graphs.” Under review at ACL Rolling Review.
2. D. T. B. Ngan, N. Rayabarapu, X. Song, **Anirban Saha Anik**, J. Liu, Q. Tan, V. Frías-Martínez, and L. Hong. “ST-Crisis: A Diagnostic Benchmark for Spatiotemporal Grounding in Crisis Communication.” Under review at ACL Rolling Review.
3. X. Song<sup>†</sup>, **Anirban Saha Anik**<sup>†</sup>, J. Liu, Q. Tan, G. Yuan, S. Fu, E. Blanco, and L. Hong. “Towards Human-Centered Natural Language Processing: A Survey of Cognitive Signal Integration.” Under review at ACL Rolling Review.

<sup>†</sup> Equal contribution.

## Honors, Awards, and Academic Activities

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### Honors and Travel Support

- **COLM Travel Award**, Conference on Language Modeling, 2025 – **\$1,250** for travel to Montreal, Canada.
- **Sinha Scholars Scholarship**, University of North Texas, 2025.
- **Runner-Up**, SIG-SM Social Media Research Competition, 2025.
- **Honorable Mention**, SIG-SM Social Media Research Competition, 2025.
- **First Place**, Health Informatics & Data Science Day Poster Competition, University of North Texas.
- **TGS Summer Award**, Toulouse Graduate School, University of North Texas, Summer 2025.

### Conference and University Presentations

- **Poster presentation**, “Multi-Agent Retrieval-Augmented Framework for Evidence-Based Counterspeech Against Health Misinformation,” [COLM 2025](#), Montreal, Canada.
- **Paper presentation**, “Dynamic Fusion of Large Language Models for Crisis Communication,” [ISCRAM 2025](#), Halifax, Canada.
- **Poster presentation**, University Research Day, University of North Texas, Denton, TX.

## Professional Service

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|-----------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Program Committees</b>   | CLEF CheckThat! Lab (2026); 2nd Workshop on LLM Agents for Social Simulation, co-located with CIKM 2026.             |
| <b>Conference Reviewing</b> | ACM/IEEE Joint Conference on Digital Libraries (JCDL); Conference and Labs of the Evaluation Forum (CLEF 2025–2026). |
| <b>Journal Reviewing</b>    | <i>Aslib Journal of Information Management</i> .                                                                     |

## Professional Experience

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>Data Insights Analyst Intern</b><br><i>SEES Group</i>                                                                                                                                                                                                                                                 | <b>August 2025–December 2025</b><br><i>Franklin, TN</i> |
| <ul style="list-style-type: none"><li>• Developed Microsoft Fabric data pipelines and analytics solutions for enterprise data integration and transformation.</li><li>• Implemented data-governance, compliance, security, and data-quality practices.</li></ul>                                         |                                                         |
| <b>Enterprise Applications Intern, Microfinance</b><br><i>BRAC</i>                                                                                                                                                                                                                                       | <b>March 2022–May 2022</b><br><i>Dhaka, Bangladesh</i>  |
| <ul style="list-style-type: none"><li>• Performed user-acceptance testing and software quality assurance for microfinance enterprise applications.</li><li>• Gathered feedback from more than five branches, documented system requirements, and proposed workflow and interface improvements.</li></ul> |                                                         |

## Technical Skills

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|--------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Programming</b>             | Python, R, SQL                                                                                              |
| <b>Machine Learning</b>        | PyTorch, TensorFlow, scikit-learn, transformers, deep learning, model evaluation, benchmark design          |
| <b>NLP and LLMs</b>            | Large language models, RAG, multi-agent systems, prompting, parameter-efficient fine-tuning, RLHF           |
| <b>Knowledge and Retrieval</b> | Knowledge-graph construction, GraphRAG, entity/relation extraction, UMLS normalization, evidence grounding  |
| <b>Human-Centered Methods</b>  | Explanation granularity, readability, comprehension, cognitive-load modeling, eye-tracking, EEG analysis    |
| <b>Infrastructure</b>          | High-performance computing, FAISS, LlamaIndex                                                               |
| <b>Certification</b>           | <b>Microsoft Certified: Fabric Data Engineer Associate</b> , July 2026. <a href="#">[Verify credential]</a> |