

# Md Mahadi Hasan Nahid

🏠 PhD student in Computing Science, University of Alberta, Canada.

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## Education

### University of Alberta

PhD in Computing Science

AB, Canada

2024–present

**Coursework:** Neurosymbolic Programming, Privacy in Machine Learning

**Research Area:** Information Retrieval and Complex Reasoning in Structured Data

### University of Alberta

MSc (Thes.) in Computing Science, GPA 4.00/4.00

AB, Canada

2022–2024

**Coursework:** Modern Database Searches and Techniques, LLMs in Database and IR, KDD and Data Mining

**Thesis:** Improving Table Reasoning through Table Decomposition and Normalization [thesis]

### Shahjalal University of Science and Technology (SUST)

BSc (Engg.) in Computer Science, GPA 3.82/4.00, Class Position: 1st / 54 Students

SYL, Bangladesh

2011–2016

**Thesis:** Bengali Speech Recognition System

## Selected Publications

For a complete list of publications, please see my Google Scholar profile.

### 2026

1. Md Mahadi Hasan Nahid, Davood Rafiei, Weiwei Zhang, and Yong Zhang. 2026. Rethinking Schema Linking: A Context-Aware Bidirectional Retrieval Approach for Text-to-SQL. 19th Conference of the European Chapter of the Association for Computational Linguistics. **[EACL 2026]**

### 2025

1. Md Mahadi Hasan Nahid, and Davood Rafiei. "PRISM: Agentic Retrieval with LLMs for Multi-Hop Question Answering." arXiv preprint arXiv:2510.14278 (2025).

### 2024

1. Md Mahadi Hasan Nahid and Davood Rafiei. 2024. NormTab: Improving Symbolic Reasoning in LLMs Through Tabular Data Normalization. In Findings of the Association for Computational Linguistics: EMNLP 2024, pages 3569–3585, Miami, Florida, USA. Association for Computational Linguistics. **[EMNLP 2024]**
2. Md Mahadi Hasan Nahid and Davood Rafiei. 2024. TabSQLify: Enhancing Reasoning Capabilities of LLMs Through Table Decomposition. In Proceedings of the 2024 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (Volume 1: Long Papers), pages 5725–5737, Mexico City, Mexico. Association for Computational Linguistics. **[NAACL 2024]**
3. Nahid, Md Mahadi Hasan, and Sadid Bin Hasan. "Safesynthdp: Leveraging large language models for privacy-preserving synthetic data generation using differential privacy." arXiv preprint arXiv:2412.20641 (2024).

### 2016-2024

1. Ahmed, Md. Yasir; Uddin, Sk Shabaz; Nahid, M. M. H. (2023). Bangla Handwritten Text Recognition: A Segmentation-based Approach to Recognize Bangla Numeral Using Deep CNN. 7th International Conference on Engineering Research, Innovation and Education (ICERIE 2023). SUST.
2. Das, K., Srinivas, M.N., Shahrear, P., Rahman, S.S., Nahid, M.M. and Murthy, B.S.N., 2023. Transmission dynamics and control of COVID-19: A mathematical modelling study. Journal of Applied Nonlinear Dynamics, 12(2), pp.405-425.
3. Shahrear, P., Rahman, S. S., & Nahid, M. M. H. (2021). Prediction and mathematical analysis of the outbreak of coronavirus (COVID-19) in Bangladesh. Results in Applied Mathematics, 10, 100145.
4. Sarker, S., Islam, M. E., Saurav, J. R., & Nahid, M. M. H. (2020, November). Word completion and sequence prediction in bangla language using trie and a hybrid approach of sequential LSTM and N-gram. In 2020 2nd International Conference on Advanced Information and Communication Technology (ICAICT) (pp. 162-167). IEEE.
5. Azad, M. A., Singha, H. S., & Nahid, M. M. H. (2020, November). Bangla handwritten character recognition using deep convolutional autoencoder neural network. In 2020 2nd International Conference on Advanced Information and Communication Technology (ICAICT) (pp. 295-300). IEEE. **[Honorable Mention Award]**

6. Sarker, S., Monisha, S. T. A., & Nahid, M. M. H. (2019, September). Bengali question answering system for factoid questions: A statistical approach. In 2019 International Conference on Bangla Speech and Language Processing (ICBSLP) (pp. 1-5). IEEE.
7. Monisha, S. T. A., Sarker, S., & Nahid, M. M. H. (2019, May). Classification of bengali questions towards a factoid question answering system. In 2019 1st International Conference on Advances in Science, Engineering and Robotics Technology (ICASERT) (pp. 1-5). IEEE.
8. Khan, S., Kubra, K. T., & Nahid, M. M. H. (2018, December). Improving answer extraction for bangali q/a system using anaphora-cataphora resolution. In 2018 International Conference on Innovation in Engineering and Technology (ICIET) (pp. 1-6). IEEE.
9. Ritu, Z. S., Nowshin, N., Nahid, M. M. H., & Ismail, S. (2018, September). Performance analysis of different word embedding models on bangla language. In 2018 International Conference on Bangla Speech and Language Processing (ICBSLP) (pp. 1-5). IEEE.
10. Nahid, M. M. H., Purkaystha, B., & Islam, M. S. (2017, December). Bengali speech recognition: A double layered LSTM-RNN approach. In 2017 20th international conference of computer and information technology (ICCIT) (pp. 1-6). IEEE.
11. Nahid, M. M. H., Islam, M. A., & Islam, M. S. (2016, May). A noble approach for recognizing bangla real number automatically using cmu sphinx4. In 2016 5th international conference on informatics, electronics and vision (ICIEV) (pp. 844-849). IEEE.

## Conference Review

**Reviewer:** EACL 2026, EMNLP 2025, ACL 2025, NAACL 2025

**Subreviewer:** ICDE 2026, ICDE 2025, WSDM 2024, SIGIR 2023, CIKM 2023

## Awards

- |   |                     |
|---|---------------------|
| 1. Alberta Innovates Graduate Student Scholarship (AIGSS)             | Sep 2023 - Aug 2026 |
| 2. Alberta Graduate Excellence Scholarship (AEGS)                     | Sep 2023 - Mar 2024 |
| 3. Alberta Machine Intelligence Institute (Amii) Talent Bursary, Amii | 2023, 2024, 2025    |
| 4. University of Alberta Graduate Recruitment Scholarship             | Sept 2022           |
| 5. Runner Up Award - AIForBangla season 1                             | Feb 2022            |
| 6. Vice Chancellor Award (For Undergraduate Performance) 🏆            | 2020                |
| 7. Prime Minister Gold Medal (For Undergraduate Performance) 🏆        | 2016                |
| 8. University Scholarship (SUST)                                      | 2012 - 2015         |

## Teaching and Research Experience

**Huawei Technologies Canada Co., Ltd., Burnaby, Canada.**

**BC, Canada**

*Associate Researcher (Intern)*

Sep 2024 - April 2025

- Big Data and Intelligence platform Lab, Vancouver
- Research on structured data reasoning and natural language interface to databases

**University of Alberta, Canada**

**AB, Canada**

*Graduate Teaching Assistant*

Sep 2024 - present

- **Course: CMPUT 291** - File and Database Management (F22, W23, F23, W24, F25, W26)
- Conduct the lab sessions and provide explanations about the lab tasks
- Assist the students with their lab tasks. Grade assignments and lab quizzes and provide feedback
- Attend TA meetings with instructor and other TAs, respond to students' questions via email

**University of Alberta, Canada**

**AB, Canada**

*Graduate Research Assistant Fellow*

May 2023 - present

- Graduate Research Assistant Fellowship (GRAF), S23, S24
- Conduct research on Information Retrieval and Tabular Data Reasoning

**Shahjalal University of Science and Technology**

**SYL, Bangladesh**

*Faculty Member*

Sep 2017 - Aug 2022

- **Course:** OOP, Communication Engineering, Introduction to Computer Language
- Published 13 research papers on the area of NLP and ML.

- Mentored 12 undergrad students on their final year research projects.
- Mentored 3 SUST Programming Teams for different programming contests

#### **Center for Research, Testing and Consultancy, CSE, SUST**

**SYL, Bangladesh**

*Member*

Jan 2020 - Aug 2022

- **Project:** Digital Sylhet City - Automation of Sylhet M. A. G. Osmani Medical College Hospital (the largest government hospital in Sylhet Division)
- **Role:** Supported the research and development team for requirements engineering and participated in designing the product's system architecture.

#### **Shahjalal University of Science and Technology**

**SYL, Bangladesh**

*Research Coordinator, SUST NLP Lab*

Jan 2018 - Aug 2022

- Engaged in collaborative research developing models for Bangla Question Answering and Document Summarization.

#### **North East University Bangladesh (NEUB)**

**SYL, Bangladesh**

*Faculty Member*

Sep 2015 - Sep 2017

- **Course:** OOP, Digital Signal Processing, Introduction to Computer Language
- Mentored 3 undergrad students on their final year research projects.
- Mentored Programming Teams for different programming contests

#### **Department of Computer Science and Engineering, SUST**

**SYL, Bangladesh**

*Research Assistant*

Sep 2017 - Aug 2022

- **Supervisor:** Professor Dr. M. Abdullah Al Mumin
- **Contributions:** Building an English-Bangla Parallel Corpus for Statistical Machine Translation.



## **Skills**

**Language:** Python, C/C++, Java, SQL, MongoDB

**Frameworks:** PyTorch, Tensorflow, Pandas, Keras

**AI:** LLMs, Machine Learning, Data Analytics