

Rabindra Nath Nandi

Lead Engineer, [Hishab Ltd.](#)
House 4A Rd 96, Dhaka 1212
+88-01741297163
rabindra.nandi@hishab.co
[GitHub](#), [LinkedIn](#), [Google Scholar](#), [Stack Overflow](#)

PRINCIPAL INTERESTS	Large Language Models (LLMs), multilingual and multimodal learning, Graph Learning, and trustworthiness in LLMs	
ACADEMIC BACKGROUND	<i>B.Sc. Computer Science and Engineering</i> 3.3/4.0 GPA March, 2010 - Sep, 2014 Khulna University of Engineering & Technology , Khulna-9203, Bangladesh	
	<ul style="list-style-type: none">• Coursework: Data Structure and Algorithms, Discrete Mathematics, Digital System Design, Operating Systems, Statistics, Mathematical Analysis, Digital Signal Processing, Artificial Intelligence, Machine Learning.• Thesis: Gene Regulatory Network Inference using Maximal Information Coefficient.	
EMPLOYMENT HISTORY	<i>Lead Engineer, Speech and Language Processing</i> Jan 2023 – Present Hishab Singapore Pte. Ltd. , Dhaka, Bangladesh	
	<ul style="list-style-type: none">• Leading AI-driven live voice customer care bots for microfinance and banking clients.• Conducting R&D on LLM, RAG-based chatbot solutions, and in-house Indic LLM development.• Monitoring real-time user data to resolve issues and enhance user satisfaction.• Developed production-grade Text-to-Speech engine and Bengali spelling detection system.	
	<i>Principal Software Engineer</i> Dec 2018 - Dec 2022 BJIT Ltd , Dhaka, Bangladesh	
	<ul style="list-style-type: none">• Designed and developed an Edge AI-based personalized recommendation application using mobile device user activity data, with model training and inference on-device and optimized model size, ensuring no data sharing with the cloud.• Developed an illegal parking detection service using deep learning, which analyzes CCTV footage to automatically detect parking slots and identify cars parked illegally.• Implemented real-time facial expression rendering into a 3D avatar for secure browser-based video chat.• Contributed to FaceAI SDK development.• Developed a speaker diarization system including speech separation, overlapped speech detection, speech embedding, and assignment to an unknown number of speakers.• Designed and developed a ChatBot solution for the BJIT company website.	

Data Scientist
Infolytx, Dhaka, Bangladesh

Oct 2017 - Nov 2018

- Conducted research on mortality prediction and survivability analysis using large-scale breast cancer data.
- Analyzed pathology reports with an annotation engine and medical vocabulary to extract patient information.
- Developed a cognitive dialog agent using IBM Watson and Apache Solr.

Software Engineer
IPvision, Dhaka, Bangladesh

Nov 2014 - Sep 2017

- Designed and implemented a lightweight deep learning model for automatic hashtag identification from RingID user feeds.
- Developed a machine learning-based slang detection engine to filter inappropriate text in a live streaming application.
- Created a comprehensive newspaper analytics platform that automatically aggregates and processes articles from over 50 news sites, categorizes, summarizes, and provides recommendations.
- Engineered data modeling and API solutions using Apache Cassandra to handle large-scale data efficiently.
- Developed a log aggregation system for RingID to streamline and analyze system logs.

PUBLICATIONS See also [my google scholar](#) page.

12. **Rabindra Nath Nandi**, Suman Maity, Brian Uzzi, Sourav Medya, An Experimental Analysis on Evaluating Patent Citations, *The 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP 2024)*, **accepted**.
11. **RN Nandi**, SA Chowdhury, F. Alam, [Pseudo-Labeling for Domain-Agnostic Bangla Automatic Speech Recognition](#), *The First Bangla Language Processing Workshop (BLP 2023) Co-located with EMNLP 2023, Singapore*.
10. **RN Nandi**, F. Alam, [TeamX at CheckThat! 2023: Multilingual and Multimodal Approach for Check-Worthiness Detection](#), *CEUR WORKSHOP PROCEEDINGS*, Thessaloniki, Greece, 2023.
9. M. Hasanain, A. El-Shangiti, **RN Nandi**, P. Nakov, and F. Alam, [QCRI at SemEval-2023 Task 3: News Genre, Framing, and Persuasion Techniques Detection Using Multilingual Models](#), *Proceedings of The 17th International Workshop on Semantic Evaluation (SemEval-2023)*, Toronto, 2023.
8. A. Barrón-Cedeño, F. Alam, T. Caselli, G. Da San Martino, **RN Nandi** et al., [The clef-2023 checkthat! lab: Checkworthiness, subjectivity, political bias, factuality, and authority](#), *European Conference on Information Retrieval*, Dublin, Ireland, 2023.

7. **RN Nandi**, F. Alam, P. Nakov, [Detecting the Role of an Entity in Harmful Memes: Techniques and their Limitations](#), *Second Workshop on Combating On-line Hostile Posts in Regional Languages during Emergency Situation Collocated with ACL 2022*, Dublin, Ireland, 2022.
6. **RN Nandi**, F. Alam, P. Nakov, [TeamX@DravidianLangTech-ACL2022: A Comparative Analysis for Troll-Based Meme Classification](#), *The Second Workshop on Speech and Language Technologies for Dravidian Languages-ACL 2022*, Dublin, Ireland, 2022.
5. **RN Nandi**, AH Palash, NH Siddique, MG Zilani, [Device-friendly Guava fruit and leaf disease detection using deep learning](#), *International Conference on Machine Intelligence and Emerging Technologies (MIET 2022)*, Noakhali, Bangladesh, 2022.
4. **RN Nandi**, M.M.Arefin Zaman, Tareq Al Muntasir, Sakhawat Hosain Sumit, Tanvir Sourov, and Md. Jamil-Ur Rahman, [Bangla News Recommendation System using doc2vec](#), *International Conference on Bangla Speech and Language Processing (ICBSLP)*, 21-22 September, 2018.
3. Sakhawat Hosain Sumit, Tareq Al Muntasir, M.M.Arefin Zaman, **RN Nandi**, and Tanvir Sourov, [Noise Robust End-to-End Speech Recognition For Bangla Language](#), *International Conference on Bangla Speech and Language Processing (ICBSLP)*, 21-22 September, 2018.
2. MAH Akhand, **RN Nandi**, SM Amran, and K Murase, [Context Likelihood of Relatedness with Maximal Information Coefficient for Gene Regulatory Network Inference](#), *18th International Conference on Computer and Information Technology (ICCIT)*, 2015, Dhaka, Bangladesh, **Best Paper Award**.
1. MAH Akhand, **RN Nandi**, SM Amran, K Murase, [Gene Regulatory Network Inference incorporating Maximal Information Coefficient into Minimal Redundancy Network](#), *International Conference on Electrical Engineering and Information Communication Technology (ICEEICT)*, 2015, Dhaka, Bangladesh.

TECHNICAL SKILL

Programming Language

- Python, C++, Java, Objective C, C and JavaScript

Data Science and Machine Learning

- Pytorch, Tensorflow, PyG, LangChains, LlamaIndex, LangGllamaindexraph. Apache Solr, Apache Kafka, Elastic Search, AWS EC2, AWS S3, Google Cloud, Metabase, Microservices

Project Management

- Redmine, Gerrit, Gitlab, Kanban Board, Sprint Planning, Task and Review Process Management, CI/CD (Jenkins, Argo CD)

SPECIAL ACHIEVEMENTS

Awards

- Best Paper Award Winner(3rd Position) for the paper “Context likelihood of relatedness for gene regulatory network inferences”, 2015 International Conference on Computer and Information Technology, MIST, Dhaka, Bangladesh.

Codalab

- Rank 6th in the [Troll Meme classification in Tamil](#) competition.

GitHub

- 3.5k Stars and 1k Forks.

Stack Overflow

- 1.4k reputations and 1 million reach.

WORKSHOPS

Bioinformatics

- Workshop on Bioinformatics and Stringology 2014 (BioS 2014), BUET, Dhaka, Bangladesh, February 27-28, 20.

Artificial Intelligence

- CONSTRAINT 2022, Second Workshop on Combating Online Hostile Posts in Regional Languages during Emergency Situation, Collocated with ACL 2022, May 27, 2022 , Dublin, Ireland.
- Winter School on Computational Intelligence, 21 - 23 Jan 2016, Venue: Bangladesh-Korea Information Access Center (IAC), Ground Floor, Dept of CSE, BUET, Dhaka, Bangladesh.

OTHER ACTIVITIES

Program Committee, [BLP Workshop @ EMNLP 2023](#), Singapore, 2023

Task Organizer, [CheckThat! Lab at CLEF 2023](#), Greece, 2023

Reviewer, [DravidianLangTech-2022](#), Ireland, 2022

[https://www.nsf.gov/awardsearch/showAward?awdNo=2300341&HistoricalAwards=false&target=blank](#); SHINE : Prediction of Coronal Mass Ejections and Interplanetary Magnetic Fields Using Advanced Artificial Intelligence. < /p > < /li > < li > < p > 05/2023 Gave a lecture on machine learning for the ISWS-

REUprogram. < /p >< /li >< li >< p > 05/2023Onepaperacceptedby < b >
 ACL2023 < /b > . < /p >< /li >< li >< p > 04/2023Onepaperacceptedby <
 b > TKDE < /b > . < /p >< /li >< li >< p > 04/2023Invitedtogiveatakat <
 ahref = "https : //web.njit.edu/ sa2564/IEEE_CASseasonal_school.html" target =
 ldquo;blankrdquo;> IEEE_CASSeasonalSchool < /a > . < /p >< /li >< li ><
 p > 07/2023Onepaperacceptedby < b > SP2024 < /b > . < /p >< /li >< li ><
 p > 05/2023HonoredtoceivearesearchgrantfromNSFfortheproject < ahref =
 "https : //www.nsf.gov/awardsearch/showAward?AWD_ID = 2300341&HistoricalAwards =
 false" target = ldquo;blankrdquo;> SHINE : PredictionofCoronalMassEjectionsandInterplaneta
 /a > asaCo-PI. < /p >< /li >< li >< p > 05/2023GavelectureonmachinelearningfortheISWS-
 REUprogram. < /p >< /li >< li >< p > 05/2023Onepaperacceptedby < b >
 ACL2023 < /b > . < /p >< /li >< li >< p > 04/2023Onepaperacceptedby <
 b > TKDE < /b > . < /p >< /li >< li >< p > 04/2023Invitedtogiveatakat <
 ahref = "https : //web.njit.edu/ sa2564/IEEE_CASseasonal_school.html" target =
 ldquo;blankrdquo;> IEEE_CASSeasonalSchool < /a > . < /p >< /li >< li ><
 p > 07/2023Onepaperacceptedby < b > SP2024 < /b > . < /p >< /li >< li ><
 p > 05/2023HonoredtoceivearesearchgrantfromNSFfortheproject < ahref =
 "https : //www.nsf.gov/awardsearch/showAward?AWD_ID = 2300341&HistoricalAwards =
 false" target = ldquo;blankrdquo;> SHINE : PredictionofCoronalMassEjectionsandInterplaneta
 /a > asaCo-PI. < /p >< /li >< li >< p > 05/2023GavelectureonmachinelearningfortheISWS-
 REUprogram. < /p >< /li >< li >< p > 05/2023Onepaperacceptedby < b >
 ACL2023 < /b > . < /p >< /li >< li >< p > 04/2023Onepaperacceptedby <
 b > TKDE < /b > . < /p >< /li >< li >< p > 04/2023Invitedtogiveatakat <
 ahref = "https : //web.njit.edu/ sa2564/IEEE_CASseasonal_school.html" target =
 ldquo;blankrdquo;> IEEE_CASSeasonalSchool < /a > . < /p >< /li >