

Rabindra Nath Nandi

Lead Engineer, [Hishab Ltd.](#)
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[GitHub](#), [LinkedIn](#), [Google Scholar](#), [Stack Overflow](#)

PRINCIPAL INTERESTS

Graph Learning, Social Network Analysis, Large Language Models, Game Theory

ACADEMIC BACKGROUND

B.Sc. Computer Science and Engineering 3.3/4.0 GPA March, 2010 - Sep, 2014
[Khulna University of Engineering & Technology](#), Khulna-9203, Bangladesh

- 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

Lead Engineer, Speech and Language Processing Jan 2023 – Present
[Hishab Singapore Pte. Ltd.](#), Dhaka, Bangladesh

- 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.

Principal Software Engineer Dec 2018 - Dec 2022
[BJIT Ltd](#), Dhaka, Bangladesh

- 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 Oct 2017 - Nov 2018
[Infolytx](#), Dhaka, Bangladesh

- 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 Online 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, LangGllamaindexrph. 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