Kashob Kumar Roy

✉ kkroy2@illinois.edu   in LinkedIn   ☁ Google Scholar   ○ GitHub

Education

University of Illinois Urbana-Champaign   Aug 2022 – Present
Phd in Computer Science, GPA 4.0/4.0
Research Area: Retrieval-augmented Long-Form Text Generation, Text Summarization,
and LLM Reasoning.
Advisor: Kevin Chen-Chuan Chang

University of Dhaka, Bangladesh ⧉   Jan 2016 – Jan 2020
B.Sc. in Comupter Science and Engineering
- **CGPA 3.90** out of 4.00
- **Thesis**: Mining Weighted Sequential Patterns in Incremental Uncertain Databases.

Research Experience

University of Illinois Urbana-Champaign   May 2023 – Aug 2023
Extern at IBM under the IBM-IL Discovery Accelerator Institute (IIDAI) program   San Jose, USA
- Retrieval-Augmented Open Domain Long-form Text Generation
  - Introduced an iterative approach with Discourse Planning, Retrieval-Reranking and
    Generation grounded on contexts.
- Retrieval-Augmented Long-form Question Answering (LFQA)
  - Developed a LFQA model with iteratively planning, retrieval, and generation

University of Illinois Urbana-Champaign   Aug 2022 – May 2023
Graduate Research Assistant, Dept. of Computer Science.
- Text Summarization
  - Developed Exemplar-guided Perspective-aware Text summarization Model.
  - Prepared two novel perspective-aware text summarization datasets
- Prior to that, worked on Concept-Centric Knowledge Graph Construction

Independent University Bangladesh ⧉   Feb 2020 – Jun 2022
Research Associate, Artificial Intelligence and Cybernetics Lab
- Worked on Graph Deep Learning and its versatile high-impact applications.

Teaching Experiences

University of Illinois Urbana-Champaign   Jan 2024 – present
Graduate Teaching Assistant, Dept. of Computer Science
Courses: CS225 - Introduction to Data Structures and Algorithms with C++

Ahsanullah University of Science and Technology ⧉   Dec 2021 – Jul 2022
Faculty at the Dept. of Computer Science and Engineering   Bangladesh
- Courses: Database, C & Numerical Methods, and Introduction to Computer System.

Preprints

**Structured-Planning Guided Retrieval for Open-domain Long-form Text   2024
Generation**
Kashob Kumar Roy, Pritom Saha Akash, Lucian Popa, Kevin C.C. Chang, 2023.

**Graph Chain-of-Thought: Augmenting Large Language Models by Reasoning on   2024
Graphs**
Bowen Jin, Chulin Xie, Jiawei Zhang, Kashob Kumar Roy, et al.

**Fusion-in-Summarization: Leveraging Multi-Perspective Exemplars in Text   2023
Summarization**
Kashob Kumar Roy, Pritom Saha Akash, Kevin C.C. Chang,

**Long-form Question Answering: An Iterative Planning-Retrieval-Generation   2023
Approach**
Pritom Saha Akash, **Kashob Kumar Roy**, Lucian Popa, Kevin C.C. Chang.

Publications

† **indicates co-first authorship.**

Node Embedding using Mutual Information and Self-Supervision based Bi-level Aggregation ⊡
International Joint Conference on Neural Networks (IJCNN), 2021
Kashob Kumar Roy†, Amit Roy†, A K M Mahbubur Rahman, M Ashraful Amin and Amin Ahsan Ali.

Structure-Aware Hierarchical Graph Pooling using Information Bottleneck ⊡
International Joint Conference on Neural Networks (IJCNN), 2021
Kashob Kumar Roy, Amit Roy, A K M Mahbubur Rahman, M Ashraful Amin and Amin Ahsan Ali.

Unified Spatio-Temporal Modeling for Traffic Forecasting using Graph Neural Network ⊡
International Joint Conference on Neural Networks (IJCNN), 2021
Amit Roy†, **Kashob Kumar Roy†**, Amin Ahsan Ali, M Ashraful Amin and A K M Mahbubur Rahman.

SST-GNN: Simplified Spatio-temporal Traffic forecasting model using Graph Neural Network ⊡
25th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2021
Amit Roy†, **Kashob Kumar Roy†**, Amin Ahsan Ali, M Ashraful Amin and A K M Mahbubur Rahman.

Mining Sequential Patterns in Uncertain Databases Using Hierarchical Index Structure ⊡
25th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2021
Kashob K. Roy, Md Hasibul Haque Moon, Md Mahmudur Rahman, Chowdhury Farhan Ahmed and Carson K. Leung.

Mining Weighted Sequential Patterns in Incremental Uncertain Databases ⊡
Information Sciences, 2022 (Impact Factor: 6.795)
Kashob K. Roy, Md Hasibul Haque Moon, Md Mahmudur Rahman, Chowdhury Farhan Ahmed and Carson K. Leung.

Competitive Programming Experience

- Participated in National Collegiate Programming Contests, and Inter-University Programming Contests, 2017 -18.
- Participated in online contests. Rating: Codechef (forkkr ⊡) - 2034 (**Top 1.5%**), Codeforces (forkkr ⊡) - 1680.
- Solved over **1500** problems: LightOJ (forkkr ⊡), UVA (forkkr ⊡), Codeforces (forkkr ⊡), Codechef (forkkr ⊡).

Technical Expertise

LLMs • **Programming Laguages** — Python, C++, C, Java • **ML frameworks** — Pytorch, DGL, TensorFlow • **Git**

Honors & Awards

- **Bangabandhu Innovation Grant**, Student to Startup hosted by ICT Division, Bangladesh Government, 2019
- **Champion,** *Code Samurai Inter-University Hackathon* organized by University of Dhaka and BJIT, 2019
- **Champion**, *BRACathon Season 3.0* hosted by BRAC, an International Development Organisation, 2019
- **Government Scholarship**, *Secondary School Certificate Exam - 2013, Junior School Certificate Exam - 2010*

Professional Services

External Reviewer
Co-reviewer at EMNLP'23; ACL'23; KDD'23, 24; SIGIR'23, 24