Kashob Kumar Roy

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

Education

University of Illinois Urbana-Champaign ⧉   Aug 2022 – Present
Phd in Computer Science   IL, USA
Advisor: Kevin Chen-Chuan Chang
- **Research Area**: Retrieval-Augmented Generation, LLM Agents.
- GPA 4.0/4.0

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

Research Experience

IBM-Illinois Discovery Accelerator Institute ⧉   May 2023 – Aug 2023
Extern at IBM Research - Almaden Lab   San Jose, USA
- 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.   IL, USA
- Long Text Summarization
  - Developed Exemplar-guided Perspective-aware Text summarization Model.
  - Prepared two novel perspective-aware text summarization datasets

Independent University Bangladesh ⧉   Feb 2020 – Jun 2022
Research Associate, Artificial Intelligence and Cybernetics Lab   Bangladesh
- 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   IL, USA
Courses: CS225: Data Structures (Spring & Fall'24), CS411: Database Systems
(Summer '24)

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.

Active Research and Preprints

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

Publications

† **indicates co-first authorship.**

ConTReGen: Context-driven Tree-structured Retrieval for Open-domain Long-form Text Generation
Findings of the 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP), 2024
Kashob Kumar Roy, Pritom Saha Akash, Kevin C.C. Chang, Lucian Popa.

Graph Chain-of-Thought: Augmenting Large Language Models by Reasoning on Graphs ⧉
Findings of the 60th Annual Meeting of the Association for Computational Linguistics (ACL), 2024
Bowen Jin, Chulin Xie, Jiawei Zhang, **Kashob Kumar Roy**, Yu Zhang, Zheng Li, Ruirui Li, Xianfeng Tang, Suhang
Wang, Yu Meng, Jiawei Han.

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

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, 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, 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, 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, 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 Kumar Roy, Md Hasibul Haque Moon, Md Mahmudur Rahman, Chowdhury Farhan Ahmed, 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 - 2*010

Professional Services

Reviewer
Conferences: EMNLP'24, 23; ACL'23; KDD'24, 23; SIGIR'24, 23