

Pritom Saha Akash

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EDUCATION

University of Illinois at Urbana-Champaign

Ph.D. in Computer Science

IL, USA

Aug. 2020 – Present

Institute of Information Technology, University of Dhaka

B.S and M.S. in Software Engineering

Dhaka, Bangladesh

Jan. 2014 – June 2019

RESEARCH INTERESTS

NLP (i.e., understanding and using LLMs), **Text Mining** and **Recommender Systems**.

EXPERIENCE

University Employments

Research Assistant

University of Illinois at Urbana-Champaign

Aug. 2024 – Present

IL, USA

- **Previously:** Aug.'20 – May'22, Aug.'22 – May'23

Co-Instructor

Dept. of CS, University of Illinois at Urbana-Champaign

Aug. 2024 – Present

IL, USA

- **Previously:** Jan.'24 – May'24
- **Courses:** CS 598: Understanding and Using LLMs

Teaching Assistant

Dept. of CS, University of Illinois at Urbana-Champaign

Aug. 2023 – Dec. 2023

IL, USA

- **Courses:** STAT 107- Data Science Discovery

Short Course Instructor

Institute of Information Technology, University of Dhaka

Jan. 2018 – Sep. 2019

Dhaka, Bangladesh

- **Courses:** Web Programming, Web design and Office application

Industry Experience

PhD Student Researcher

Co-op of CS@UIUC and eBay Inc.

Sep. 2022 – Present

IL, USA

- **Topic:** Recommender System

Applied Scientist Intern

Amazon Prime Video & Studios CoreTech

May 2024 – Aug. 2024

Seattle, WA, USA

- **Topic:** LLM in Prime Video Search

Research Scientist Intern

Almaden Lab, IBM Research

May 2023 – Aug. 2023

San Jose, CA, USA

- **Topic:** Conversational AI and Long-form QA

Software Engineer

Samsung R&D Institute Bangladesh

Nov. 2019 – Aug. 2020

Dhaka, Bangladesh

- **Topic:** Samsung Wearable Application Development

Software Engineer Intern

Datasoft System Bangladesh Limited

Jan. 2017 – June 2017

Dhaka, Bangladesh

- **Topic:** Website Development

PUBLICATIONS

1. Lam Do, **Pritom Saha Akash**, Kevin Chen-Chuan Chang. Unsupervised Open-domain Keyphrase Generation. The 61st Annual Meeting of the Association for Computational Linguistics (ACL). 2023.
2. **Pritom Saha Akash**, Jie Huang, Kevin Chen-Chuan Chang. Coordinated Topic Modeling. The 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP). 2022
3. **Pritom Saha Akash**, Jie Huang, Kevin Chen-Chuan Chang, Yunyao Li, Lucian Popa, ChengXiang Zhai. Domain Representative Keywords Selection: A Probabilistic Approach. *Findings of the 60th Annual Meeting of the Association for Computational Linguistics (Findings of ACL)*. 2022.
4. Md. Eusha Kadir, **Pritom Saha Akash**, Sadia Sharmin, Amin Ahsan Ali, and Mohammad Shoyaib. A Proximity Weighted Evidential k Nearest Neighbor Classifier for Imbalanced Data. *In Pacific-Asia Conference on Knowledge Discovery and Data Mining*, pp. 71-83. Springer, Cham, 2020.
5. Md. Eusha Kadir*, **Pritom Saha Akash***, Sadia Sharmin, Amin Ahsan Ali, and Mohammad Shoyaib. Can a Simple Approach Identify Complex Nurse Care Activity? *In Adjunct Proceedings of the 2019 ACM International Joint Conference on Pervasive and Ubiquitous Computing and the 2019 International Symposium on Wearable Computers (UbiComp/ISWC '19 Adjunct)* [*Equal Contribution]
6. **Pritom Saha Akash**, Md. Eusha Kadir, Amin Ahsan Ali and Mohammad Shoyaib. Inter-node Hellinger distance based Decision Tree, *In Proceedings of the Twenty-Eighth International Joint Conference on Artificial Intelligence, IJCAI-19*.
7. **Pritom Saha Akash**, Md. Eusha Kadir, Amin Ahsan Ali, Md. Nurul Ahad Tawhid and Mohammad Shoyaib. Introducing Confidence as a Weight in Random Forest. *2019 International Conference on Robotics, Electrical and Signal Processing Techniques (ICREST)*. [Best Presenter Award]
8. **Pritom Saha Akash**, Ali Zafar Sadiq and Ahmedul Kabir. An Approach of Extracting God Class Exploiting Both Structural and Semantic Similarity. *ENASE 2019 : 14th International Conference on Evaluation of Novel Approaches to Software Engineering*.
9. Jeba, Tahmim, Tarek Mahmud, **Pritom Saha Akash**, and Nadia Nahar. God Class Refactoring Recommendation and Extraction Using Context based Grouping.
10. Md. Eusha Kadir, **Pritom Saha Akash**, Amin Ahsan Ali, Mohammad Shoyaib and Zerina Begum. Evidential SVM for binary classification. *ICASERT-2019: 1st International Conference on Advances in Science, Engineering and Robotics Technology*.
11. Ali Zafar Sadiq, Ahmedul Kabir, **Pritom Saha Akash** and Md. Jubair Ibna Mostafa. Analyzing Corrective Maintenance using Change Coupled Clusters at Fix-inducing Changes. *2019 International Conference on Electrical, Computer and Communication Engineering (ECCE)*.

PREPRINTS AND UNDER REVIEW

1. Qihao Wang*, **Akash, Pritom Saha***, Varvara Kollia, Biwei Jiang, Vadim Von Brzeski, Kevin Chen-Chuan Chang. On Category Recommendation: A Cascading Approach. [On Review, KDD'25 (Resubmit)]
2. **Akash, Pritom Saha**, Jie Huang, and Kevin Chen-Chuan Chang. Let the Pretrained Language Models “Imagine” for Short Texts Topic Modeling. arXiv preprint arXiv:2310.15420 (2023). [On Review, EMNLP'24]
3. Youan Cong*, Cheng Wang*, **Akash, Pritom Saha***, and Kevin Chen-Chuan Chang. Query Optimization for Parametric Knowledge Refinement in Retrieval-Augmented Large Language Models. [On Review, EMNLP'24]
4. Kashob Kumar Roy, **Akash, Pritom Saha**, Lucian Popa, and Kevin Chen-Chuan Chang. ConTReGen: Context-driven Tree-structured Retrieval for Open-domain Long-form Text Generation. [On Review, EMNLP'24]
5. **Akash, Pritom Saha***, Kashob Kumar Roy*, Lucian Popa, and Kevin Chen-Chuan Chang. Long-form Question Answering: An Iterative Planning-Retrieval-Generation Approach. arXiv preprint arXiv:2311.09383 (2023).

6. **Akash, Pritom Saha***, Trisha Das*, and Kevin Chen-Chuan Chang. TopicAdapt-An Inter-Corpora Topics Adaptation Approach. arXiv preprint arXiv:2310.04978 (2023).
7. **Akash, Pritom Saha**, and Kevin Chen-Chuan Chang. Exploring variational graph auto-encoders for extract class refactoring recommendation. arXiv preprint arXiv:2203.08787 (2022).
8. **Akash, Pritom Saha**, Wei-Cheng Lai, and Po-Wen Lin. Online aggregation based approximate query processing: A literature survey. arXiv preprint arXiv:2204.07125 (2022).

MASTER'S THESIS

- **Pritom Saha Akash**, An Evidential Inter-node Hellinger Distance based Tree Classifier, *Institute of Information Technology, University of Dhaka, 2019.*

AWARDS & GRANTS

1. IIT Academic Excellence Gold Medal Award, 2019
2. 2019 IEEE Computer Society Bangladesh Chapter's Award for Academic & Research Excellence in recognition of Outstanding Research Accomplishments
3. Winner in a Human activity recognition challenge called *NURSE CARE ACTIVITY RECOGNITION CHALLENGE* as a part of HASCA workshop at Ubicomp 2019
4. Awarded for *IJCAI-AIJ 2019 TRAVEL and ACCESSIBILITY GRANT*
5. Awarded as the best presenter in an international conference, ICREST 2019
6. Awarded as an ICT fellow (2018-19) under ICT Division Bangladesh

SENIOR PROJECT

Context Sensitive Bengali Spell Checker	Jul. 2017 - Nov. 2017
<ul style="list-style-type: none"> • A Bengali Spell Checker for detecting and recommending corrections of typographic and contextual errors • Developed using Python 3.5 and Django 1.11.2 	

UNDERGRADUATE PROJECTS

Context Sensitive Bengali Spell Checker	Jul. 2017 - Nov. 2017
<ul style="list-style-type: none"> • A Bengali Spell Checker for detecting and recommending corrections of typographic and contextual errors • Developed using Python 3.5 and Django 1.11.2 	
Graduate Verification System	Aug. 2017 - Oct. 2017
<ul style="list-style-type: none"> • A web-based system for verification of a graduate • Developed using PHP, Laravel and MySQL 	
Budget Planning System	Sept. 2016 - Nov. 2016
<ul style="list-style-type: none"> • A web-based system for planning yearly budget of IIT, University of Dhaka • Developed using PHP and MySQL 	
Home Budget Manager	Feb. 2015 - May 2015
<ul style="list-style-type: none"> • An Android application to set budget and track your earnings-expenses • Developed using Java, Android Studio 1.0 and SQLite 	

ADDITIONAL INFORMATION

Reviewer: EMNLP'23,24; ACL'23,24, EACL'23

Co-Reviewer: KDD'21,22,23,24; SIGIR'21,22,23,24; CIKIM'21; ICDM'21; WSDM'21

Technical Skills

Programming: Python, Java, Matlab, C/C++, MySQL, JavaScript, R

Software and Tools: PyTorch, scikit-learn, Git, LaTeX, IntelliJ, Eclipse, Android Studio