

# Pritom Saha Akash

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## EDUCATION

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### University of Illinois at Urbana-Champaign

*Ph.D. in Computer Science*

IL, USA

*Aug. 2020 – Present*

### Institute of Information Technology, University of Dhaka

*M.S. in Software Engineering*

Dhaka, Bangladesh

*Jan. 2018 – June 2019*

### Institute of Information Technology, University of Dhaka

*B.S. in Software Engineering*

Dhaka, Bangladesh

*Jan. 2014 – Dec. 2017*

## RESEARCH INTERESTS

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**Text Mining & Natural Language Processing**, including Information Extraction, Selection and Summarization with recent interest in Recommender System.

## EXPERIENCE

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### Research Scientist Intern - Artificial Intelligence (Incoming)

*Almaden Lab, IBM Research*

May 2023 – Aug. 2023

*San Jose, CA, USA*

- **Topic:** Conversational AI

### Graduate Research Assistant

*University of Illinois at Urbana-Champaign*

Aug. 2020 – Present

*IL, USA*

- **Lab:** Data and Information Systems Laboratory
- **Advisor:** Prof. Kevin C. Chang

### Software Engineer

*Samsung R&D Institute Bangladesh*

Nov. 2019 – Aug. 2020

*Dhaka, Bangladesh*

- Tizen Wearable Application Development Team in Mobile Application Group 2 (MAG2)
- Developing Samsung wearable applications in Tizen platform

### Short Course Instructor

*Institute of Information Technology, University of Dhaka*

Jan. 2018 – Sep. 2019

*Dhaka, Bangladesh*

- Worked as an instructor in short courses of Web Programming, Web design and Office application

### Software Engineer Intern

*Datasoft System Bangladesh Limited*

Jan. 2017 – June 2017

*Dhaka, Bangladesh*

- Involved in developing two in-house automation projects

## PUBLICATIONS

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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]
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)*.

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#### PREPRINTS AND UNDER REVIEW

1. **Pritom Saha Akash**, Jie Huang, Kevin Chen-Chuan Chang. Let the Pretrained Language Models “Imagine” for Short Texts Topic Modeling.
2. **Pritom Saha Akash**, Kevin Chen-Chuan Chang. Extract Class Refactoring Recommendations using Variational Graph Auto-Encoders. arXiv preprint arXiv:2203.08787 (2022)
3. **Pritom Saha Akash**, Wei-Cheng Lai, and Po-Wen Lin. Online Aggregation based Approximate Query Processing: A Literature Survey. arXiv preprint arXiv:2204.07125 (2021).

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#### MASTER’S THESIS

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

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#### SENIOR PROJECT

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

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#### 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

## PROJECTS

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

## ADDITIONAL INFORMATION

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**Reviewer/Co-Reviewer:** ACL'23, KDD'21,22,23; SIGIR'21,22,23; 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