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| **Shubhra Kanti Karmaker (“Santu”)**  Address: 51 Newton Ave, Apt# 1, Quincy, MA 02170, United States  Contact no. +12179793244  Email # [santu@mit.edu](mailto:santu@mit.edu)  <https://karmake2.github.io/> |

**Research Interest**

* Text Mining
* Big Data and Machine Learning
* Information Retrieval

**Current position**

Postdoctoral Research Associate

Supervisor: **Dr. Kalyan Veeramachaneni**

Laboratory for Information & Decision Systems

**Massachusetts Institute of Technology (MIT)**

Cambridge, Massachusetts

**Education**

* **PhD in Computer Science - (2018)**

University of Illinois at Urbana-Champaign, Illinois, US

CGPA: **4.00** (on a scale of 4.00)

Supervisor: **ChengXiang Zhai**

* **M. Sc in Computer Science and Engineering - (2014)**

Bangladesh University of Engineering and Technology (BUET), Dhaka -1000, Bangladesh

CGPA: **4.00** (on a scale of 4.00)

* **B. Sc in Computer Science & Engineering - (2012)**

Bangladesh University of Engineering and Technology (BUET), Dhaka -1000, Bangladesh

CGPA: **3.98** (on a scale of 4.00) [**Class Rank: 1** (out of 126 in the entire department) ]

**Selected Services**

* Program Committee Member: ACL 2019, IUI 2019, WSDM [2020, 2019]
* Conference external reviewer: SIGIR 2018
* Reviewer: IEEE Transactions on Knowledge and Data Engineering (TKDE)
* Reviewer: Neuro-Computing Journal
* Program Committee Member: WSDM Demo Track 2019, 2018

**Professional Experience**

* **Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts [current position]**
  + Postdoctoral Research Associate @LIDS, MIT
  + Research Group: Data-to-AI
  + Supervisor: **Kalyan Veeramachaneni**
* **University of Illinois Urbana Champaign, CS department, Urbana, Illinois [2014-2018]**
  + Research Assistant @TIMAN group
  + Thesis Title: Influence modeling in dynamic text streams
  + Supervisor: **ChengXiang Zhai**
* **Microsoft Research, Bellevue, Seattle [Summer, 2018]**
  + Summer Research Intern @FUSE labs
  + Project: Developed semantic representations for understanding utterances for LUIS

( <https://www.luis.ai/> )

* + Mentor: **Riham Mansour**
* **Microsoft Research, Redmond, Seattle [Summer, 2017]**
  + Summer Research Intern @Internet Service Research Center
  + Project: Developed a new Dynamic Text Generation Process for Microsoft Academic Search ( <https://www.microsoft.com/en-us/research/project/microsoft-academic-graph/> )
  + Mentor: **Hao Ma**
* **Yahoo Research, San Francisco Bay Area [Summer, 2016]**
  + Summer Research Intern @search science group
  + Project: Developed an Influence model to capture the influence of Popular Trending Events on User Search Behavior to empower yahoo search engine.

( <https://search.yahoo.com/> )

* + Mentor: **Yi Chang**
* **Walmart Labs, San Francisco Bay Area [Summer, 2015]**
  + Summer Research Intern @ search relevance team
  + Project: Implemented Learning-to-rank framework for <https://www.walmart.com/>.
  + Mentor: **Parikshit Sondhi**
* **Jump Trading LLC, Chicago [Fall 2016 - Spring 2017]**
  + Text Mining Consultant
  + Topic: Confidential and Restricted
  + Supervisor: **Qiaozhu Mei**, Associate Professor, University of Michigan
* **University of Illinois Urbana Champaign, Urbana, Illinois [Fall 2014 - Spring 2015]**
  + Research Assistant @TIMAN group
  + Topic: A Probabilistic Framework for Analysis of Re-Identification Risks in Aggregated Data Sets
  + Supervisor: **Prof. Carl A. Gunter**
* **Bangladesh University of Engineering and Technology, Bangladesh [May 2012 – August, 2014]**
  + Lecturer, Department of Computer Science & Engineering
  + Taught multiple undergraduate courses including computer graphics, computer architecture etc.
* **University of Illinois Urbana Champaign, CS department, Urbana, Illinois [Fall 2018]**
  + Instructor @ Text Mining Seminar
  + In this online course, I organized online meetings to discuss multiple state-of-the-art text mining research papers
* **University of Illinois Urbana Champaign, CS department, Urbana, Illinois [Fall 2017]**
  + Teaching Assistant @ Advanced Information Retrieval
  + In this course, mentored multiple course projects and conducted discussion sessions
  + Instructor: ChengXiang Zhai
* **Stochastic Logic, ACI Limited, Dhaka, Bangladesh [May 2012 – August, 2014]**
  + Quantitative Software developer
  + Worked on stock market forecasting using time series analysis

**Research Publications**

1. **Shubhra Kanti Karmaker Santu**,Liangda Li, Chengxiang Zhai and Yi Chang**,**“JIM: Joint Influence Modeling for Collective Search Behavior”**.** In **CIKM 2018: 637-646**.
2. **Shubhra Kanti Karmaker Santu**, Vincent Bindschaedler, ChengXiang Zhai and Carl Gunter. “NRF: A Naive Re-Identification Framework”. In WPES@**CCS** **2018: 121-132**.
3. **Shubhra Kanti Karmaker Santu**, Chase Geigle, Duncan Ferguson, William Cope, Mary Kalantzis, Duane Searsmith and Chengxiang Zhai. "SOFSAT: Towards a Set-like Operator based Framework for Semantic Analysis of Text", To appear at **SIGKDD** Explorations, 2018.
4. **Shubhra Kanti Karmaker Santu**, Parikshit Sondhi and ChengXiang Zhai**.**“On Application of Learning to Rank for E-Commerce Search”**.** In **ACM SIGIR, 2017:** (pp. 475-484)**.**
5. **Shubhra Kanti Karmaker Santu**,Liangda Li, Dae Hoon Park, Chengxiang Zhai, Yi Chang**,**“Modeling the Influence of Popular Trending Events on User Search Behavior”**,**in **WWW, 2017:** (pp. 535-544).
6. Yiren Wang, Dominic Seyler, **Shubhra Kanti Karmaker Santu** and Chengxiang Zhai."A Study of Feature Construction for Text-based Forecasting of Time Series Variables"**.** To appearin **ACM CIKM, 2017.**
7. **Shubhra Kanti Karmaker Santu,**Parikshit Sondhi and ChengXiang Zhai**. “**Generative Feature Language Models for Mining Implicit Features from Customer Reviews”**.**In **ACM** **CIKM**, **2016**: 929-938.
8. **Shubhra Kanti Karmaker Santu**, Md. Mustafizur Rahman, Md. Monirul Islam and Kazuyuki Murase.  “Towards better generalization in Pittsburgh Learning Classifier Systems”**.**In **IEEE** **CEC**, **2014:** (pp. 1666-1673).
9. Md. Mustafizur Rahman, **Shubhra Kanti Karmaker Santu**, Md. Monirul Islam and Kazuyuki Murase.  Forecasting Time Series - A Layered Ensemble Architecture.  In **IEEE IJCNN**, **2014:** (pp. 210-217).

**Papers under submission**

1. **Shubhra Kanti Karmaker Santu**, Bin Bi, Hao Ma, ChengXiang Zhai and Kuansang Wang**.**“Dynamic Text Generation Process”**.** Submitted to **KDD 2019**.
2. **Shubhra Kanti Karmaker Santu**, Parikshit Sondhi and ChengXiang Zhai**.**“Query-Specific Customization of nDCG: A Case-Study with Learning-to-Rank Methods”. Submitted to **JASIST**.

**Talks**

1. JIM: Joint Influence Modeling for Collective Search Behavior. at CIKM, October 2018.
2. NRF: A Naive Re-Identification Framework. at WPES@CCS, October 2018.
3. Intern Final Presentation, @FUSELabs, Microsoft Research, Bellevue, WA, August 2018.
4. Intern Final Presentation, @ISRC, Microsoft Research, Redmond, WA, August 2017.
5. On Application of Learning to Rank for E-Commerce Search. at ACM SIGIR, August, 2017.
6. Modeling the Influence of Popular Trending Events on User Search Behavior.  at WWW, April 2017.
7. Intern Final Presentation, @Yahoo research, Sunnyvale, CA, August 2016.
8. Generative Feature Language Models for Mining Implicit Features from Customer Reviews. at CIKM, October 2016.
9. Intern Final Presentation, @WalmartLabs, Sunnyvale, CA, August 2015.
10. Towards better generalization in Pittsburgh Learning Classifier Systems.  at IEEE CEC.

**Teaching experience**

* Lecturer, Department of Computer Science & Engineering, BUET, Bangladesh. May 2012 – August, 2014
  + Courses Instructed
    - Computer Graphics (CSE 409) – November 2013 Semester
    - Computer Graphics Sessional (CSE 410) – November 2013 Semester
    - Database Sessional (CSE 304) – November 2013 Semester
    - Structured Programming Language Sessional (CSE 106) – November 2013 Semester
    - Digital Electronics and Pulse Techniques (CSE 209) – February 2013 Semester
    - Digital Electronics and Pulse Techniques Sessional (CSE 210) – February 2013 and April 2012 Semester
    - Structured Programming Language Sessional (CSE 106) – February 2013 Semester
    - Computer Architecture (CSE 453) – April 2012 Semester
    - Operating System Sessional (CSE 314) – April 2012 Semester
    - Algorithms Sessional (CSE 208) – April 2012 Semester
    - Digital Electronics and Pulse Techniques Sessional (CSE 210) – April 2012 Semester
  + Software Development Projects Supervised

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| * Memorize Game (C) * Brick Game (C) * 15-Puzzle (C) * Packman (C) * Balloon Shooting (C) * Snake (C) * Bows and Arrows (C) | * Chess (C) * Balls and Chains (C) * Online Cricket Score board (Java) * LAN Audio Video Conferencing (Java) * LAN based Digital WordPad (Java) * LAN based tic-tac-toe (Java) * LAN Puzzle game (Java) |

* Instructor (Text Mining Seminar), CS 591, UIUC, Fall 2018
  + The purpose of this seminar course is to study state-of-the-art Text Mining papers published at premier conferences like SIGIR, KDD, ACL etc. I conducted parallel online presentation sessions for interested audience.
* Teaching Assistant (Advanced Information Retrieval), CS 510, UIUC, Fall 2017
  + Responsivities of my included guest lectures, office hours, discussion sessions and assignment/test design and evaluation of students’ performance.
* Student Mentoring Experience
  + PhD students
    - Dominic Seyler
    - Yiren Wang
  + Masters Student
    - Vishaal Mohan
  + Undergraduate Student
    - Devaraj Tripasuri

**Awards**

* SIGIR Travel Grant for attending CIKM 2018
* Crest of honor (highest CGPA in the department, presented by BUET alumni association)
* Dean’s list award (For brilliant result in each year during undergraduate program at BUET)
* University Merit Scholarship (For brilliant result in each semester of undergraduate program at BUET)
* Talent pool Board scholarship (For brilliant result in H.S.C. and S.S.C. in Barisal Board, Bangladesh)

**Skills**

* Languages: C, C++, Java, Python, MATLAB, ASP, JSO, Assembly, OPENGL, Prolog
* Strong problem solving skill
* Excellent presentation skill and proficient in technical writing (Latex)
* Self-motivated and ability to work both independently or in a team
* Strong interpersonal and leadership qualities

**Extra-Curricular Activities**

* Treasurer of Bengali Student Association, RSO, UIUC
* Several National Award winner in music, acting and recitation
* Awarded the best cricketer in junior group of inter house cricket competition (2003), Barisal cadet college
* Awarded gold medal in classical song in inter cadet college literature and music meet(ICCLMM), 2001, held at Pabna Cadet College, Rajshahi, Bangladesh

**Reference**

Available on request

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Shubhra Kanti Karmaker Santu