

SHUBHRA KANTI KARMAKER (“SANTU”)

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<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 Sears Smith 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 appear in **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
 - 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

Shubhra Kanti Karmaker Santu