

Yuchen Bian

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I am a fifth-year Ph.D. candidate in College of Information Sciences and Technology at The Pennsylvania State University. I am a research assistant in the Data Analytics Lab advised by [Dr. Xiang Zhang](#). I did internship in **Baidu Big Data Lab** (summer 2018, mentor: [Dr. Jun Huan](#)) and **NEC Labs, America** (summer 2019, mentor: [Dr. Jianwu Xu](#)). I am now working on graph mining projects (e.g., network embedding) using geometric deep learning techniques and reinforcement learning techniques. **Two of my papers were nominated for the Best Paper of ICDM 2017 and 2018, respectively.** I plan to graduate in Fall 2019. I am actively seeking a full-time research related job.

Education:

Ph.D. Candidate, Information Sciences and Technology 08/2016—present (Expected 09/2019)
College of Information Sciences and Technology, The Pennsylvania State University, State College, PA
Project Keywords: Deep Learning, Networks Embedding, Local Clustering Advisor: [Dr. Xiang Zhang](#)

Ph.D. Candidate (transferred to PSU), Computer Science 09/2014—08/2016
Dpt. of Electrical Engineering and Computer Science, Case Western Reserve University, Cleveland, OH
Project Keywords: Data Mining, Local Clustering, Complex networks Advisor: [Dr. Xiang Zhang](#)

Master Degree, Control Science and Engineering 09/2010—01/2013
School of Electrical Engineering and Automation, Tianjin University, Tianjin, China
Thesis title: 3-D reconstruction of rising bubble in gas-water multiphase flow Advisor: [Dr. Feng Dong](#)

Bachelor Degree, Automation 09/2006—07/2010
School of Electrical Engineering and Automation, Tianjin University, Tianjin, China

Selected Publications:

1. [Yuchen Bian](#), Dongsheng Luo, Yaowei Yan, Wei Cheng, Wei Wang, and Xiang Zhang. "Memory-Based Random Walk for Multi-Query Local Community Detection." *Knowledge and Information Systems (KAIS)*, (2019) (*accepted, one of best paper candidates of ICDM 2018*)
2. Yaowei Yan, [Yuchen Bian](#), Dongsheng Luo, Dongwon Lee, and Xiang Zhang. "Constrained Local Graph Clustering by Colored Random Walk", *Proc. of The Web Conference (WWW)*, (2019). (*Full paper, acceptance rate: 225/1247=18%*)
3. [Yuchen Bian](#), Yaowei Yan, Wei Cheng, Wei Wang, Dongsheng Luo, and Xiang Zhang. "On Multi-Query Local Community Detection", *Proc. of the IEEE International Conference on Data Mining (ICDM)* (2018). (*Best paper candidate. Regular paper, acceptance rate: 84/948=8.86%*).
4. [Yuchen Bian](#), Jingchao Ni, Wei Cheng, Xiang Zhang. "The Multi-Walker Chain and Its Application in Local Community Detection." *Knowledge and Information Systems (KAIS)*, (2018). (*one of best paper candidates of ICDM 2017*) <https://doi.org/10.1007/s10115-018-1247-1>.
5. Yubao Wu, Xiang Zhang, [Yuchen Bian](#), et al. "Second-order random walk-based proximity measures in graph analysis: formulations and algorithms." *The VLDB Journal*, (2017): 1-26.
6. [Yuchen Bian](#), Jingchao Ni, Wei Cheng, and Xiang Zhang. "Many Heads are Better than One: Local Community Detection by the Multi-Walker Chain." *Proc. of the IEEE International Conference on Data Mining (ICDM)*, (2017). (*Best paper candidate. Regular paper, acceptance rate: 72/778=9.25%*).
7. Yubao Wu, [Yuchen Bian](#), and Xiang Zhang. "Remember where you came from: on the second-order

random walk based proximity measures.” *Proc. of the VLDB Endowment (VLDB)* 10, (2016): 13-24.

8. **Yuchen Bian**, Feng Dong, Weida Zhang *et al.* “3D Reconstruction of Single Rising Bubble in Water Using Digital Image Processing and Characteristic Matrix.” *Particuology*, 11, no. 2 (2013): 170–183.

9. **Yuchen Bian**, Feng Dong, Hongyi Wang. “Reconstruction of Rising Bubble with Digital Image Processing Method”. *Proc. of IEEE Inter. Instrumentation and Measurement Tech. Conf. (I²MTC)*, (2011): 430-435.

Four more papers are submitted to CIKM 2019 and ICDM 2019.

Research Experience:

Graduate Research Assistant, Data Analytics Lab 08/2014—present

College of Information Sciences and Technology, The Pennsylvania State University, State College, PA
Dpt. of Electrical Engineering and Computer Science, Case Western Reserve University, Cleveland, OH

- Build multi-agent random walk models to detect local clusters for query nodes in complex networks
- **Publication 1 - 7**

Graduate Research Assistant, Tianjin Key Lab of Process Measurement and Control 09/2010—01/2013

School of Electrical Engineering and Automation, Tianjin University, Tianjin, China

- 3D reconstruction of the shape of rising bubbles in gas-water flow (**Publication 8 & 9**)

Industry Experience:

NEC Labs, America (intern), Princeton, NJ, US 04/2019–08/2019

- Mentor: [Dr. Jianwu Xu](#)
- Project: Reinforcement learning based test case recommendation and prioritization

Baidu Big Data Lab (intern), Beijing, China 06/2018–12/2018

- Mentor: [Dr. Jun Huan](#)
- Project: Multiview graph embedding with attention-based deep neural network

Software Engineer, Samsung Mobile R&D Center, Tianjin, China 06/2013—06/2014

- Develop and debug the Samsung smartphone Camera Module
- Projects: Samsung I9158P and 7272C

Honors and Awards:

- **ICDM Best Paper Candidate** 11/2018
- IST Travel Award 10/2017, 11/2018
- ICDM Student Travel Award 10/2017, 11/2018
- First place winner (Engineering category) in the 33rd annual PSU Graduate Exhibition ([News](#)) 03/2018
- **ICDM Best Paper Candidate** 11/2017
- **Tianjin Excellent Master Thesis Dissertation Award** 12/2015
- Outstanding New Employee of SRC-Tianjin 12/2013
- **National Scholarship (Graduate Students)** 12/2012
- Top10 excellent students in science and technology in Tianjin University 11/2011
- **1st prize of 5th (3/65) and 3th (5/53) “National Mitsubishi Electric Automation Cup”** 08/2011, 08/2009
- Excellent undergraduate student at Tianjin University (6/175) 07/2010

Professional Services:

- Conference external reviewer:
KDD 16-19, ICDM 15-19, CIKM 17-19, SDM 15-19, WSDM 18, WWW 18, HIPC 18, APBC 16.
- Invited lectures:
Local Clustering in Complex Networks, IST 558 Course (Data Mining), 02/23/2017, 02/27/2018.