Renchi Yang (杨任驰)

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EDUCATION

Ph.D. in Computer Science (awarded in Jan 2021)   **Nanyang Technological University (NTU)**
Advisors: Xiaokui Xiao and Sourav S. Bhowmick   *Jul 2016 - Jul 2020*

B.Eng. in Software Engineering   **Beijing University of Posts and Telecommunications (BUPT)**
(awarded in Jul 2015)   *Aug 2011 - Jul 2015*

RESEARCH INTERESTS

- Databases and Data Management and Analytics: graph query processing, similarity search
- The Web and Information Retrieval: search and ranking, recommendation, web mining
- Data Mining and Machine Learning: social network analysis, graph representation learning

WORK EXPERIENCES

Assistant Professor   Hong Kong SAR
Department of Computer Science, Hong Kong Baptist University   *Jan 2023 -*

Postdoctoral Research Fellow   Singapore
School of Computing, National University of Singapore   *May 2021 - Present*

Research Assistant   Doha, Qatar
College of Science and Engineering, Hamad Bin Khalifa University   *Feb 2021 - May 2021*

Research Assistant   Singapore
Rolls-Royce@NTU Corporate Lab / Alibaba-NTU SG Joint Research Institute   *Jun 2016 - Jan 2021*

Back-end Software Engineer   Shenzhen, China
Social Network Group, Tencent, Inc.   *Jul 2015 - Jun 2016*

Data Engineer Intern   Beijing, China
Mobile and Cloud Computing Division, Baidu, Inc.   *Nov 2014 - Apr 2015*

SELECTED HONORS

- Honorable mention as one of the best PC Members in WWW 2022
- Best Paper Award Nominee in WWW 2022
- 2022 ACM SIGMOD Research Highlight Award
- Best Research Paper Award in VLDB 2021
- SIGMOD 2019 Travel Award

PUBLICATIONS

[1] **Renchi Yang** and Jing Tang. "Efficient Estimation of Pairwise Effective Resistance". In: *Proceedings of the International Conference on Management of Data (SIGMOD)*. 2023, To Appear.

[2] Shiqi Zhang, **Renchi Yang**, Xiaokui Xiao, Xiao Yan, and Bo Tang. "Effective and Efficient PageRank-based Positioning for Graph Visualization". In: *Proceedings of the International Conference on Management of Data (SIGMOD)*. 2023, To Appear.

[3] Juncheng Liu, Yiwei Wang, Bryan Hooi, **Renchi Yang**, and Xiaokui Xiao. "LSCALE: Latent Space Clustering-Based Active Learning for Node Classification". In: *Joint European Conference on Machine Learning and Knowledge Discovery in Databases (ECML-PKDD)*. 2022, To Appear.

[4] **Renchi Yang**. "Efficient and Effective Similarity Search over Bipartite Graphs". In: *The Web Conference (WWW)*. 2022, pp. 308–318. (**Best Paper Award Nominee**, 11/323).

[5] **Renchi Yang**, Jieming Shi, Keke Huang, and Xiaokui Xiao. "Scalable and Effective Bipartite Network Embedding". In: *Proceedings of the International Conference on Management of Data (SIGMOD)*. 2022, pp. 1977–1991.

[6] **Renchi Yang**, Jieming Shi, Xiaokui Xiao, Yin Yang, Sourav S. Bhowmick, and Juncheng Liu. "No PANE, No Gain: Scaling Attributed Network Embedding in a Single Server". In: *ACM SIGMOD Record* (2022), pp. 42–49. (special issue for **ACM SIGMOD Research Highlight Award**).

[7] **Renchi Yang**, Jieming Shi, Xiaokui Xiao, Yin Yang, Sourav S. Bhowmick, and Juncheng Liu. "PANE: Scalable and Effective Attributed Network Embedding". In: *Submitted to The VLDB Journal (VLDBJ)* (2022), (**Invited Paper**).

[8] Tianyuan Jin, Yu Yang, **Renchi Yang**, Jieming Shi, Keke Huang, and Xiaokui Xiao. "Unconstrained Submodular Maximization with Modular Costs: Tight Approximation and Application to Profit Maximization". In: *Proceedings of the VLDB Endowment (PVLDB)* (2021), pp. 1756–1768.

[9] **Renchi Yang**, Jieming Shi, Xiaokui Xiao, Yin Yang, Juncheng Liu, and Sourav S. Bhowmick. "Scaling Attributed Network Embedding to Massive Graphs". In: *Proceedings of the VLDB Endowment (PVLDB)* (2021), pp. 37–49. (**Best Research Paper Award**, 1/216).

[10] **Renchi Yang**, Jieming Shi, Yin Yang, Keke Huang, Shiqi Zhang, and Xiaokui Xiao. "Effective and Scalable Clustering on Massive Attributed Graphs". In: *The Web Conference (WWW)*. 2021, pp. 3675–3687.

[11] **Renchi Yang** and Xiaokui Xiao. "Fast Approximate All Pairwise CoSimRanks via Random Projection". In: *Web Information Systems Engineering (WISE)*. Vol. 13080. 2021, pp. 438–452. (**Invited Paper**).

[12] Jieming Shi, Tianyuan Jin, **Renchi Yang**, Xiaokui Xiao, and Yin Yang. "Realtime Index-Free Single Source SimRank Processing on Web-Scale Graphs". In: *Proceedings of the VLDB Endowment (PVLDB)* (2020), pp. 966–978.

[13] **Renchi Yang**, Jieming Shi, Xiaokui Xiao, Yin Yang, and Sourav S. Bhowmick. "Homogeneous Network Embedding for Massive Graphs via Reweighted Personalized PageRank". In: *Proceedings of the VLDB Endowment (PVLDB)* (2020), pp. 670–683.

[14] Jieming Shi, **Renchi Yang**, Tianyuan Jin, Xiaokui Xiao, and Yin Yang. "Realtime Top-k Personalized PageRank over Large Graphs on GPUs". In: *Proceedings of the VLDB Endowment (PVLDB)* (2019), pp. 15–28.

[15] **Renchi Yang**, Xiaokui Xiao, Zhewei Wei, Sourav S. Bhowmick, Jun Zhao, and Rong-Hua Li. "Efficient Estimation of Heat Kernel PageRank for Local Clustering". In: *Proceedings of the International Conference on Management of Data (SIGMOD)*. 2019, pp. 1339–1356.

[16] Sibo Wang, **Renchi Yang**, Runhui Wang, Xiaokui Xiao, Zhewei Wei, Wenqing Lin, Yin Yang, and Nan Tang. "Efficient Algorithms for Approximate Single-Source Personalized PageRank Queries". In: *Transactions on Database Systems (TODS)* (2019), 18:1–18:37.

[17] Sibo Wang, **Renchi Yang**, Xiaokui Xiao, Zhewei Wei, and Yin Yang. "FORA: Simple and Effective Approximate Single-Source Personalized PageRank". In: *Proceedings of the International Conference on Knowledge Discovery and Data Mining (SIGKDD)*. 2017, pp. 505–514.

ACADEMIC SERVICES

- Invited reviewer for the following journals: TKDE, VLDBJ
- Program committee member for the following conferences/workshops:
  – WWW 2022, KDD 2022, ECML-PKDD 2022, WSDM 2023, WWW 2023
- Subreviewer or External reviewer for the following conferences/workshops:
  – VLDB 2023, CIKM 2022, WWW 2021, ICDM 2021, ICDE 2020, VLDB 2020, KDD 2019, IJCAI 2019, CIKM 2019

ACADEMIC TALKS

Efficient Network Embedding for Large-Scale Graph Analysis   Hong Kong SAR, China
The Hong Kong university of Science and Technology   *September 26, 2022*

Efficient Network Embeddings for Big Graph Analytics   Hong Kong SAR, China
Hong Kong Baptist University   *August 10, 2022*

Scalable and Effective Bipartite Network Embedding   Philadelphia, USA
SIGMOD 2022   *June 16, 2022*

Efficient Relevance Search over Large Graphs (invited talk)   Guangzhou, China
The Hong Kong University of Science and Technology (Guangzhou)   *May 5, 2022*

Efficient and Effective Similarity Search over Bipartite Graphs   Lyon, France
WWW 2022   *April 29, 2022*

Fast Approximate All Pairwise CoSimRanks via Random Projection   Melbourne, Australia
WISE 2021   *October 26, 2021*

Scaling Attributed Network Embedding to Massive Graphs (invited talk)
Renmin University of China

Beijing, China
August 30, 2021

Scaling Attributed Network Embedding to Massive Graphs
VLDB 2021

Copenhagen, Denmark
August 19, 2021

Effective and Scalable Clustering on Massive Attributed Graphs
WWW 2021

Ljubljana, Slovenia
April 23, 2021

Homogeneous Network Embedding for Massive Graphs via Reweighted PPR
VLDB 2020

Tokyo, Japan
September 4, 2020

Efficient Estimation of Heat Kernel PageRank for Local Clustering
SIGMOD 2019

Amsterdam, The Netherlands
July 4, 2019