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 (awarded in Jul 2015) — **Beijing University of Posts and Telecommunications (BUPT)**
Aug 2011 - Jul 2015

RESEARCH INTERESTS

- Big Data Management and Analytics - graph query processing, graph clustering, network embedding

WORK EXPERIENCES

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
- 10^{th} Prize of KDD Cup 2020 AutoGraph
- SIGMOD 2019 Travel Award

PUBLICATIONS

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

[2] **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.

[3] **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**).

[4] **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**).

[5] 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.

[6] **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**).

[7] **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.

[8] **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**).

[9] 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.

[10] **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.

[11] 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.

[12] **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.

[13] 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.

[14] 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
- External reviewer for the following conferences/workshops:
  - VLDB 2023, WWW 2021, ICDM 2021, ICDE 2020, VLDB 2020, KDD 2019, IJCAI 2019, CIKM 2019

ACADEMIC TALKS

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

Efficient Relevance Search over Large graphs — Guangzhou, China
The Hong Kong University of Science and Technology (Guangzhou) — *June 16, 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 — Beijing, China
Renmin University of China — *August 30, 2021*

Scaling Attributed Network Embedding to Massive Graphs — Copenhagen, Denmark
VLDB 2021 — *August 19, 2021*

Effective and Scalable Clustering on Massive Attributed Graphs — Ljubljana, Slovenia
WWW 2021 — *April 23, 2021*

Homogeneous Network Embedding for Massive Graphs via Reweighted Personalized PageRank — Tokyo, Japan
VLDB 2020 — *September 4, 2020*

Efficient Estimation of Heat Kernel PageRank for Local Clustering — Amsterdam, The Netherlands
SIGMOD 2019 — *July 4, 2019*