Yifan Qian

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Short Bio

I am currently a postdoctoral fellow at the Center for Science of Science and Innovation (CSSI), Kellogg School of Management at Northwestern University, United States. My research is broadly concerned with the science of science, and combines theories and methods from network science, machine learning, data science, and sociology. The general goal of my work is to measure and predict innovations in research institutions with large-scale data sets on scientific fundings, publications and their broad impacts on various facets of human society.

Research Interests

Science of Science, Innovation, Network Science, Computational Social Science, Machine Learning

Academic Positions

- **Northwestern University** — Evanston, IL, US
  Postdoc, Kellogg School of Management — Nov. 2021 - Present
  Mentors: Prof. Dashun Wang & Prof. Benjamin F. Jones

- **Imperial College London** — London, UK
  Visiting scholar, Department of Mathematics — Sep. 2017 - Aug. 2021
  Mentors: Prof. Mauricio Barahona & Dr. Paul Expert

Education

- **Queen Mary University of London (QMUL)** — London, UK
  PhD in Business and Management — Sep. 2017 - Nov. 2021
  Supervisors: Prof. Pietro Panzarasa & Prof. Mauricio Barahona
  Thesis title: Network science, Big data analytics, and Deep learning: An Interdisciplinary Approach to the Study of Citation, Social and Collaboration Networks
  Thesis examiners: Prof. Renaud Lambiotte & Dr. Guven Demirel

- **Beihang University** — Beijing, China
  MSc. in Computer Science — Sep. 2014 - Mar. 2017
  Supervisor: Prof. Wenge Rong

- **École Centrale de Nantes** — Nantes, France
  MSc. in Engineering — Sep. 2013 - Aug. 2015

- **Beihang University** — Beijing, China
  BSc. in Information and Computing Sciences — Sep. 2010 - Aug. 2014

Journal Publications

1. **Yifan Qian**, Paul Expert, Pietro Panzarasa, and Mauricio Barahona. Geometric Graphs from Data to Aid Classification Tasks with Graph Convolutional Networks. ***Patterns*** 2, no. 4 (2021): 100237. 10.1016/j.patter.2021.100237

2. **Yifan Qian**, Paul Expert, Tom Rieu, Pietro Panzarasa, and Mauricio Barahona. Quantifying the Alignment of Graph and Features in Deep Learning. ***IEEE Transactions on Neural Networks and Learning Systems*** (2021). 10.1109/TNNLS.2020.3043196

3. **Yifan Qian**, Wenge Rong Nan Jiang, Jie Tang, and Zhang Xiong. Citation Regression Analysis of Computer Science Publications in Different Ranking Categories and Subfields. ***Scientometrics*** 110, no. 3 (2017): 1351-1374. 10.1007/s11192-016-2235-4

Selected Working Papers

1. Yifang Wang, **Yifan Qian**, Xiaoyu Qi, Nan Cao, Dashun Wang. *InnovationInsights*: A visual analytics approach for understanding the dual frontiers between science and technology. Submitted (2023)

2. **Yifan Qian**, Jian Gao, Yian Yin, Benjamin F. Jones, Peter Schiffer, Dashun Wang. Research topic diversity and convergence among US research universities. (2023)

3. **Yifan Qian**, Luca Verginer, Xiancheng Li, Massimo Riccaboni, and Pietro Panzarasa. Network foundations of scientific impact and innovation of cities in the life sciences. (2023)

4. Xiancheng Li, Luca Verginer, **Yifan Qian**, Massimo Riccaboni, and Pietro Panzarasa. Group diversity and scientific innovation. (2023)

5. Xiancheng Li, **Yifan Qian**, Mauricio Barahona, and Pietro Panzarasa. The role of patents in boosting scientific production, impact, and innovation. (2023)

6. **Yifan Qian** and Pietro Panzarasa. Intra- and inter-brokerage in social networks. (2023)

7. Hongwei Peng, Xiancheng Li, **Yifan Qian**, and Pietro Panzarasa. The relationship between scientists' early-career interdisciplinarity and long-term success. (2023)

Patents

1. Dashun Wang, Benjamin F. Jones, **Yifan Qian**. Systems and Methods to Identify Commercialization and Partnership Potential for Research Institutions. Provisional Invention Disclosure filed. (2022)

Grants

1. Summer Institutes in Computational Social Science (SICSS) Grant, **$4,000**   *Principal Investigator*
   Scientists in computational social science: Demographics and interactions   2021

Selected Presentations

NetSci: International School and Conference on Network Science.
IC2S2: International Conference on Computational Social Science.
ICSSI: International Conference on the Science of Science and Innovation.

1. NetSci 2022. (Talk, Shanghai, China) 2022/07

2. ICSSI 2022. (Poster, National Academy of Sciences, Washington DC, US) 2022/06

3. IC2S2 2021. (Talk, ETH Zurich, Switzerland) 2021/07

4. NetSci 2021. (Talk, Indiana University Network Science Institute, US) 2021/07

5. NetSci 2020. (Talk&Poster, Rome, Italy) 2020/09

6. IC2S2 2020. (Poster, MIT, US) 2020/07

7. SBM PhD Symposium. (Talk, QMUL, UK) 2019/10

8. IC2S2 2019. (Talk&Poster, University of Amsterdam, The Netherlands) 2019/07

9. Data Natives 2019. (Talk, City, University of London, UK) 2019/03

10. 2nd UK Network Science Workshop. (Talk, University of Greenwich, UK) 2018/10

11. SBM PhD Symposium. (Talk, QMUL, UK) 2018/10

12. IC2S2 2018. (Poster, Northwestern University, US) 2018/07

13. NetSci 2018 Satellite: Machine Learning in Network Science. (Talk, Paris, France) 2018/06

14. NetSci 2018. (Poster, Paris, France) 2018/06

Selected Awards

- Beihang University Outstanding Graduate Dissertation Award 2017

- Beihang University Outstanding Graduate 2017

- First-class Graduate Scholarship from Beihang University 2014–2015

- Scholarship from École Centrale de Nantes 2014

Teaching

Northwestern University, Evanston, US *Teaching Associate*

- Social Dynamics & Networks (MORSX-945-0) 2022

Queen Mary University of London, London, UK *Teaching Associate*

- Innovation and Entrepreneurship (Undergraduate, BUS300) 2021

- Quantitative Analysis for Business (Undergraduate, BUS135)   2021
- Social Network Analysis (Undergraduate, BUS346)   2019, 2020

Academic Service

Reviewer:

- *Physics and Mathematics*: Advances in Complex Systems; Applied Network Science; European Physical Journal B
- *General Audience*: Proceedings of the National Academy of Sciences (PNAS), Scientific Reports

Membership:

- The International Society for Computational Social Science
- Society of Young Network Scientists
- The Network Science Society

Computer Skills

- Python, Matlab, R, Latex, Bash/shell scripting, HTML, SQL.
- *Operating systems*: MacOS, Linux, Windows.

Languages

English (Proficient), French (Professional), Chinese (Native)