## Yian Yin

| CONTACT            | Northwestern University   | Email: yianyin@u.northwestern.edu |
|--------------------|---|-----------------------------------|
| Information        | Center for Science of Science and Innovation  | Website: https://www.yianyin.net  |
|                    | Northwestern Institute on Complex Systems   | Voice: 425-209-5518               |
|                    | 600 Foster Street, Evanston, IL 60208   | Updated May 2022                  |
| ACADEMIC POSITIONS | Cornell University, Ithaca, NY, USA Assistant Professor, Information Science, Bowers College of Computing & Info  | Jul 2023 – ormation Science       |
|                    | Northwestern University, Evanston, IL, USA<br>Research Assistant Professor,<br>Kellogg School of Management   | Jul 2022 – Jun 2023               |
|                    | Research Fellow,<br>Center for Science of Science & Innovation  | Sep 2019 –                        |
|                    | Researcher in Residence,<br>Northwestern Institute on Complex Systems   | Aug 2016 –                        |
|                    | Microsoft Research, Redmond, WA, USA  |                                   |
|                    | Visiting Researcher,  | Oct 2018 – Nov 2018               |
|                    | Microsoft Academic Graph Analytics  |                                   |
|                    | Pennsylvania State University, University Park, PA, USA   |                                   |
|                    | Visiting Scholar,   | Jul 2015 – Oct 2015               |
|                    | College of Information Sciences & Technology  |                                   |
|                    | Peking University, Beijing, China   |                                   |
|                    | Undergraduate Research Assistant,   | May 2014 – Jun 2016               |
|                    | Center for Information Sciences   |                                   |
| EDUCATION          | Northwestern University, Evanston, IL, USA  |                                   |
|                    | Ph.D., Industrial Engineering & Management Sciences   | Expected 2022                     |
|                    | McCormick School of Engineering & Applied Sciences  |                                   |
|                    | Committee: Noshir Contractor <sup>chair</sup> , Dashun Wang <sup>co-chair</sup> , Jo  | _                                 |
|                    | M.Sc., Industrial Engineering & Management Sciences   | Dec 2017                          |
|                    | Peking University, Beijing, China   | Y 2016                            |
|                    | B.Sc., Statistics   | Jun 2016                          |
|                    | School of Mathematical Sciences <b>B.Ec.</b> , Economics  | Jun 2016                          |
|                    | National School of Development  | Juli 2010                         |
| _                  |   |                                   |
| SELECTED           | • Top 25 Papers in Social Sciences and Human Behaviour, N   |                                   |
| AWARDS             | <ul> <li>Rising Star in Data Science (Spotlight), University of Chicago</li> <li>Complex Systems Scholarship, Young Researchers in Complex Systems Society</li> </ul> |                                   |
|                    | <ul> <li>Best Reviewer, ICWSM: International AAAI Conference on Web and Social Media</li> </ul>   |                                   |
|                    | Best Reviewer, AOM Technology and Innovation Management   |                                   |
|                    | • Top 100 Most-discussed Papers across All Sciences, Altme  |                                   |
|                    | Conference Scholarship, Network Science Society Conference  |                                   |
|                    | Young Network Scientist Award, Society of Young Network   |                                   |
|                    | <ul> <li>Graduate Fellowship, Northwestern University</li> </ul>  | 2016                              |

#### PUBLICATIONS ¶: equal contributions. ‡: students I have mentored.

# JOURNAL PUBLICATIONS

- [1] Jian Gao, **Yian Yin**, Kyle R. Myers, Karim R. Lakhani & Dashun Wang (2021) Potentially long-lasting effects of the pandemic on scientists *Nature Communications*, **1**, 12: 6188. 10.1038/s41467-021-26428-z
- [2] Yian Yin<sup>¶</sup>, Jian Gao<sup>¶</sup>, Benjamin F. Jones & Dashun Wang (2021) Coevolution of policy and science during the pandemic Science, 371, 6525: 128–130. 10.1126/science.abe3084
- [3] Kyle R. Myers, Wei Yang Tham, Yian Yin, Nina Cohodes, Jerry G. Thursby, Marie C. Thursby, Peter Schiffer, Joseph T. Walsh, Karim R. Lakhani & Dashun Wang (2020) Unequal effects of the COVID-19 pandemic on scientists
  Nature Human Behaviour, 4, 9: 880–883. 10.1038/s41562-020-0921-y
- [4] Jichao Li<sup>‡</sup>, Yian Yin, Santo Fortunato & Dashun Wang (2020) Scientific elite revisited: Patterns of productivity, collaboration, authorship and impact *Journal of the Royal Society Interface*, 17, 165: 20200135. 10.1098/rsif.2020.0135
- [5] Yian Yin, Yang Wang, James A. Evans & Dashun Wang (2019) Quantifying the dynamics of failure across science, startups and security *Nature*, 575, 7781: 190–194. 10.1038/s41586-019-1725-y
- [6] Jichao Li<sup>‡</sup>, Yian Yin, Santo Fortunato & Dashun Wang (2019) Nobel laureates are almost the same as us *Nature Reviews Physics*, 1, 5: 301–303. 10.1038/s42254-019-0057-z
- [7] Jichao Li<sup>‡</sup>, Yian Yin, Santo Fortunato & Dashun Wang (2019) A dataset of publication records for Nobel laureates Scientific Data, 6, 1: 33. 10.1038/s41597-019-0033-6
- [8] **Yian Yin** & Dashun Wang (2017)
  The time dimension of science: Connecting the past to the future *Journal of Informetrics*, **11**, 2: 608–621. 10.1016/j.joi.2017.04.002

## WORKING PAPERS

- [9] Yian Yin, Yuxiao Dong, Kuansan Wang, Dashun Wang & Benjamin F. Jones (2022) Public use and public funding of science NBER Working Paper w28748
- [10] Ryan R. Hill<sup>¶</sup>, **Yian Yin**<sup>¶</sup>, Carolyn Stein<sup>¶</sup>, Dashun Wang & Benjamin F. Jones (2022) Adaptability and the pivot penalty in science and technology *SSRN* 3886142, in submission.
- [11] Zihang Lin<sup>‡</sup>, Yian Yin, Lu Liu & Dashun Wang (2022) SciSciNet: A large-scale open datalake for the science of science

## SELECTED WORK IN PROGRESS

- [12] **Yian Yin** & Dashun Wang Quantifying punctuated record-breaking dynamics
- [13] **Yian Yin** & Dashun Wang Universal limits of learning
- [14] Yang Wang, **Yian Yin**, Lu Liu & Dashun Wang Funding and the end of hot streaks in scientific careers
- [15] Alexander C. Furnas, Jian Gao, **Yian Yin** & Dashun Wang The political mobilization of scientists in the United States

| PATENTS  | [16] Dashun Wang, Yian Yin, Yang Wang & James A. Evans<br>System and method to predict success based on analysis of failure<br>US Patent Application 17/061,112 |                                  |
|----------|---|----------------------------------|
| GRANTS   | [1] SICSS Seed Research Grant, \$2,000 Structures and dynamics of package ecosystems  | rincipal Investigator<br>2018/08 |
|          | [2] Minerva Research Initiative, \$309,562  Quantifying the effects of COVID-19 pandemic on scientific workforce  | Proposal lead writer<br>2020/05  |
|          | [3] Social Science Research Council, <b>\$8,200</b> 4 <sup>th</sup> Summer Institute in Computational Social Science Chicago                                    | Organizer<br>2021/02             |
|          | [4] Peter G. Peterson Foundation, \$150,000  Developing a quantitative framework to track and assess state-level policy responses to the COVID-19 pandemic      | Proposal lead writer 2021/04     |
| TEACHING | Summer Institute in Computational Social Science (SICSS), Chicago, IL   | Instructor                       |
|          | Lectures in Computational Social Science  • SICSS-Chicago 2021, 30 students from social and computational scien   | ace.                             |
|          | Northwestern University, Evanston, IL   | Teaching Assistant               |
|          | Social Dynamics & Networks (MORSX 945)  • Winter 2022, EMBA course at Kellogg School of Management.   |                                  |
|          | Social Dynamics and Network Analytics (MORS 457)  • 9 sessions (2017-2022), MBA course at Kellogg School of Management  | nt.                              |
|          | <ul><li>Human and Machine Intelligence (MORS 950)</li><li>Spring 2021, MBA course at Kellogg School of Management.</li></ul>                                    |                                  |
|          | Statistical Decision Analysis (MECNX 434)  • Winter 2018, EMBA core course at Kellogg School of Management.   |                                  |
|          | Data Science and Programming Workshops  • Summer 2018, serial workshop by Northwestern Research Computing.  |                                  |
| TALKS    | Invited talk, INFORMS Annual Meeting     Indianapolis, IN   | Forthcoming                      |
|          | <ol> <li>International Conference on the Science of Science and Innovation (ICSS)<br/>Washington, DC</li> </ol>   | I) Forthcoming                   |
|          | 3. Invited talk, School of Public Policy<br>Georgia Institute of Technology (online)  | 2022/04                          |
|          | 4. Invited talk, School of Computer Science Seminar Carnegie Mellon University, Pittsburgh, PA  | 2022/03                          |
|          | 5. Invited talk, Data Science Seminar University of California San Diego (online)   | 2022/03                          |
|          | 6. Invited talk, Institute for Computational and Data Sciences Seminar Pennsylvania State University (online)   | 2022/03                          |
|          | 7. Invited talk, Information Science Colloquium Cornell University, Ithaca, NY  | 2022/03                          |

| 8.  | Invited talk, Interactive Computing Seminar<br>Georgia Institute of Technology (online)                         | 2022/02 |
|-----|---|---------|
| 9.  | Invited talk, Information Sciences Seminar<br>University of Illinois at Urbana-Champaign (online)               | 2022/02 |
| 10. | Invited talk, Computational Social Science Seminar<br>University of Pittsburgh (online)                         | 2022/02 |
| 11. | Invited talk, Engineering Management and Systems Engineering Seminar<br>George Washington University (online)   | 2022/02 |
| 12. | Invited talk, Industrial Engineering Seminar<br>Purdue University (online)                                      | 2022/01 |
| 13. | Invited talk, Mechanical and Industrial Engineering Seminar University of Toronto (online)                      | 2022/01 |
| 14. | Invited talk, System Dynamics Group Seminar<br>MIT Sloan School of Management, Cambridge, MA                    | 2021/12 |
| 15. | Invited talk, Sociology Department Colloquium<br>University of Chicago, Chicago, IL                             | 2021/11 |
| 16. | Invited talk, Management & Organizations Seminar<br>NYU Stern School of Business (online)                       | 2021/11 |
| 17. | Invited talk, Sociology Department Seminar<br>Purdue University (online)  | 2021/11 |
| 18. | INFORMS Annual Meeting<br>Anaheim, CA   | 2021/10 |
| 19. | Harvard Business School Digital Doctoral Workshop<br>Boston, MA (online)  | 2021/09 |
| 20. | Minerva Research Network Workshop<br>Wautoma, WI  | 2021/08 |
| 21. | International Conference on Computational Social Science ( $IC^2S^2$ ) Zürich, Switzerland (online)             | 2021/07 |
| 22. | Networks 2021: A Joint Sunbelt and NetSci Conference<br>Washington, DC (online)                                 | 2021/07 |
| 23. | Seminar, Stanford METRICS International Forum<br>Meta-research Innovation Center, Stanford University (online)  | 2021/04 |
| 24. | Invited talk, Webinar, Saving Curies Series   | 2021/03 |
| 25. | Invited talk, Webinar, Swarma Club  | 2021/01 |
| 26. | Spotlight speaker, Rising Stars in Data Science Workshop, Data Science Institute University of Chicago (online) | 2021/01 |
| 27. | The 7 <sup>th</sup> Satellite on Quantifying Success, NetSci 2020   | 2020/09 |
| 28. | Invited talk, Webinar ML Collective   | 2020/09 |

| 29. | International Conference on Computational Social Science (IC <sup>2</sup> S <sup>2</sup> )<br>Boston, MA (online) | 2020/07 |
|-----|---|---------|
| 30. | Seminar, Northwestern Institute on Complex Systems  | 2020/06 |
| 31. | Invited talk, Webinar, Aggregate Intellect (ai.science)   | 2020/02 |
| 32. | Invited talk, Northwestern Data Science Night   | 2020/02 |
| 33. | Invited talk, Michigan Institute for Data Science Symposium<br>University of Michigan, Ann Arbor, MI              | 2019/11 |
| 34. | Seminar, Northwestern Institute on Complex Systems  | 2019/10 |
| 35. | Invited talk, Institute for Research on Innovation & Science Summit University of Michigan, Ann Arbor, MI         | 2019/09 |
| 36. | Invited talk, Great Lakes Data Science Workshop<br>University of Notre Dame, Notre Dame, IN                       | 2019/09 |
| 37. | International Conference on Computational Social Science ( $IC^2S^2$ ) Amsterdam, Netherlands                     | 2019/07 |
| 38. | NetSci 2019: International Workshop and Conference on Network Science Burlington, VT                              | 2019/05 |
| 39. | Invited talk, Seminar, Center for Neuroscience, Zhejiang University Hangzhou, Zhejiang, China                     | 2018/12 |
| 40. | International Conference on Computational Social Science ( $IC^2S^2$ ) Evanston, IL                               | 2018/07 |
| 41. | Summer Institute in Computational Social Science (SICSS)<br>Chicago, IL   | 2018/06 |
| 42. | Seminar, Northwestern IEMS-OM Collaborative Workshop  | 2018/04 |
| 43. | Speaker, Northwestern Computational Research Day  | 2018/04 |
| 44. | Seminar, Northwestern SIAM Bridging the Gap   | 2017/11 |
| 45. | Speaker, Northwestern Current Research & Future Careers Symposium   | 2017/08 |
| 46. | Invited speaker, AI & Public Policy Symposium<br>Tsinghua University, Beijing, China                              | 2017/07 |
| 47. | Invited participant, Kaifeng Institute on Geometry and Statistical Learning<br>Swarma Club, Beijing, China        | 2017/07 |
| 48. | Symposium for the Society of Young Network Scientists, NetSci 2017 Indianapolis, IN                               | 2017/06 |
| 49. | NetSci 2017: International Workshop and Conference on Network Science Indianapolis, IN                            | 2017/06 |
| 50. | Seminar, Northwestern Institute on Complex Systems  | 2017/05 |
| 51. | Seminar, Kellogg MORS Macro Brown Bag   | 2017/05 |
| 52. | Speaker, Kellogg-Booth Student Symposium, Chicago, IL   | 2017/04 |
| 53. | Speaker, Chicago Area SIAM Student Conference, Chicago, IL  | 2017/04 |

| Organizer • Summer Institute in Computational Social Science (SICSS), Chicago site    | 2021      |
|---|-----------|
| Program Committee   |           |
| • International ACM Conference on Web Science (WebSci)                                | 2022      |
| • International World Wide Web Conference (TheWebConf)                                | 2021-2022 |
| • International AAAI Conference on Web and Social Media (ICWSM)                       | 2021-2022 |
| Best Program Committee Member Award (2021)  |           |
| Referee   |           |
| Scientific Reports  | 2017      |
| • PLOS One  | 2017-2021 |
| Europhysics Letters   | 2018-2019 |
| Distinguished Reviewer Award (2018)   |           |
| Physica A: Statistical Mechanics and its Applications                                 | 2018      |
| <ul> <li>Journal of Informetrics</li> </ul>   | 2017-2019 |
| Outstanding Reviewer Award (2018)   |           |
| <ul> <li>Scientometrics</li> </ul>  | 2021      |
| <ul> <li>Journal of the Association for Information Science and Technology</li> </ul> | 2021      |
| <ul> <li>Science and Engineering Ethics</li> </ul>                                    | 2022      |
| EPJ Data Science  | 2021-2022 |
| PeerJ Computer Science  | 2019-2020 |
| <ul> <li>Social Network Analysis and Mining</li> </ul>                                | 2019-2020 |
| <ul> <li>AI &amp; Society: Knowledge, Culture and Communication</li> </ul>            | 2020      |
| <ul> <li>IEEE Transactions on Network Science and Engineering</li> </ul>              | 2018      |
| IEEE Transactions on Big Data   | 2020      |
| ACM Web Science Conference  | 2020      |
| <ul> <li>International Conference on Computational Social Science</li> </ul>          | 2020      |
| <ul> <li>Annual Meeting of the Academy of Management</li> </ul>                       | 2020-2021 |
| Best Reviewer Award, Technology and Innovation Management (2021)                      |           |

### IN THE PRESS List of selected media coverage

ACADEMIC SERVICE

#### Adaptability and the pivot penalty in science and technology

• New things under the sun: Building a new research field

### Potentially long-lasting effects of the pandemic on scientists

- Forbes: The bad news, good news, bad news about COVID's impact on scientific research
- Science: The pandemic's slowing of research productivity may last years
- Nature: The COVID pandemic has harmed researcher productivity and mental health
- Scientific American: A high-speed scientific hive mind emerged from the COVID pandemic
- *Physics World*: New non-COVID research projects plunge by a third since the start of the pandemic
- GenomeWeb: Pandemic, productivity, and optimism
- Other coverages include ScienMag, Lab Manager, Medical News, and Scitech Daily.

## Coevolution of policy and science during the pandemic

- The Scientist: WHO leads in using solid science to draft COVID-19 policy
- EurekAlert: Policymakers draw heavily from highly cited COVID-19 science
- Kellogg Insight: How well does COVID public policy align with science?
- Other coverages include Science Policy News, ScienMag, Lab Manager, Tyee and FROMTBOT.

#### Unequal effects of the COVID-19 pandemic on scientists

- Forbes: COVID's surprising toll on careers of women scientists
- Forbes: COVID-19's effects on women in science intensify disparities
- The Atlantic: How science beat the virus
- Times Higher Ed: Pandemic lockdown holding back female academics, data show
- Times Higher Ed: Childcare the key limit on scientists' pandemic working hours
- Inside Higher Ed: University research: a time of disparate change
- Inside Higher Ed: Keeping COVID-19 from sidelining equity
- Inside Higher Ed: Implementing pandemic equity measures for faculty
- Scientific American: Women in science may suffer lasting career damage from COVID-19
- Scientific American: COVID has laid bare the inequities that face mothers in STEM
- Science: Pandemic hits scientist parents hard
- The Scientist: Pandemic pressures may drive young scientists away from autism research
- AAAS: Institutions must support minority researchers impacted by COVID-19
- Wire: COVID-19 changed scientists' research methods, will this change science itself?
- EurekAlert: Pandemic disproportionately affects scientists with young children
- Kellogg Insight: The pandemic has slashed scientists' productivity
- Other coverages include Medium, Spectrum News, Science Policy News, ThePaper.cn, Deccan Herald, Lab Manager, ScienMag, Oxford Student, Phys.org, Psychology Today, ASBMB Today, Marketplace, Chemistry Views and Chemistry World.

### Scientific elite revisited: Patterns of productivity, collaboration, authorship and impact

- Daily Mail: The Nobel curse is REAL
- The Times: Scientists fall foul of Nobel curse
- Other coverages include Phys.org and Chemistry World.

### Quantifying the dynamics of failure across science, startups and security

- Inc.: 5 ways to avoid startup failure by increasing your team's learning speed
- Fast Company: Science reveals the tipping point between success and failure
- Global Advisors: Why failing fast is critical if you want to eventually win
- Washington Post: The lasting lesson of this Super Bowl: failure is necessary
- Forbes: Don't fail fast fail smart
- MIT Technology Review: How the data mining of failure could teach us the secrets of success
- Harvard Business Review: The tipping point between failure and success
- Scientific American: Failure found to be an "essential prerequisite" for success?
- Medium: Ignite success sooner: 2 ways to fail better
- Science Daily: Failure prognosis: Data science predicts which failures will ultimately succeed
- Business Insider: Researchers found a key reason certain people succeed while others fall behind, and it starts with learning from past mistakes
- Communications of ACM: How the data mining of failure could teach us the secrets of success
- Lancet: Offline: It's time to prepare your anti-CV
- Kellogg Insight: Why do some people succeed after failing while others continue to flounder?
- Other coverages include Science Policy News, Lab Manager, YCombinator Hacker News, China.org, Xinhua, News Ghana, Slate France, internetactu, ZAP, Sohu News and Phys.org.

#### Nobel laureates are almost the same as us

- *Physics Today*: The Nobel Prize in physics: The papers
- Kellogg Insight: Nobel Prize winners They're just like us!
- *Inside Science*: Getting ready for the 2019 Nobel Prizes