

Published: 23 June 2021

Academic Collaboration Recommendation for Computer Science Researchers Using Social Network Analysis

[Ibukun T. Afolabi](#), [Atinuke Ayo](#) & [Oluwole A. Odetunmibi](#) 

[Wireless Personal Communications](#) (2021)

8 Accesses | [Metrics](#)

Abstract

In order to improve the quality and quantity of the performance in computing in Nigeria Universities, there is need for a functioning research networking application through which they can exchange ideas. This is because academics tend to be more comfortable communicating with each other, asking questions and more importantly, such networking will provide mentorship in the Nigeria academic

[View PDF](#)

Your privacy

We use cookies to make sure that our website works properly, as well as some "optional" cookies to personalise content and advertising, provide social media features and analyse how people use our site. By accepting some or all optional cookies you give consent to the processing of your personal data, including transfer to third parties, some in countries outside of the European Economic Area that do not offer the same data protection standards as the country where you live. You can decide which optional cookies to accept by clicking on "Manage Settings", where you can also find more information about how your personal data is processed. [View our privacy policy](#)

[Manage Settings](#)

[Accept All Cookies](#)

developed using the link prediction based on the Adamic-Adar Index measure. In conclusion, the result gotten from the network analysis is a valuable source of information for accessing the different centrality values of researchers in computer science. It also formed the foundation for developing an academic collaboration recommendation system for a small world research network. This will therefore improve the quantity and quality of performance of computer science academics in Nigeria.

This is a preview of subscription content, [access via your institution](#).

Access options

Buy article PDF

34,95 €

Tax calculation will be finalised during checkout.

Instant access to the full article PDF.

View PDF

Your privacy

We use cookies to make sure that our website works properly, as well as some "optional" cookies to personalise content and advertising, provide social media features and analyse how people use our site. By accepting some or all optional cookies you give consent to the processing of your personal data, including transfer to third parties, some in countries outside of the European Economic Area that do not offer the same data protection standards as the country where you live. You can decide which optional cookies to accept by clicking on "Manage Settings", where you can also find more information about how your personal data is processed. [View our privacy policy](#)

[Manage Settings](#)

[Accept All Cookies](#)

[Learn more about Institutional subscriptions](#)

Data Availability

The data used for the research is available on request.

Code Availability

The code for analysing the data is available on request.

References

1. 1.

Mattessich, P. M. C. (2001). *Collaboration: What makes it work* (2nd ed.). Amherst H.Wilder Foundation.

2. 2.

Lewis, J. (2010). *Connecting and cooperating: Social capital and public policy*. UNSW Press.

[View PDF](#)

3. 3.

Okokpujie, I., Fayomi, O., Ogbonnaya, S., &

Your privacy

We use cookies to make sure that our website works properly, as well as some "optional" cookies to personalise content and advertising, provide social media features and analyse how people use our site. By accepting some or all optional cookies you give consent to the processing of your personal data, including transfer to third parties, some in countries outside of the European Economic Area that do not offer the same data protection standards as the country where you live. You can decide which optional cookies to accept by clicking on "Manage Settings", where you can also find more information about how your personal data is processed. [View our privacy policy](#)

[Manage Settings](#)

[Accept All Cookies](#)

individual level. *Research Policy*, 29(1), 31–40.

5. 5.

Theresa, C. O., & Samson, O. C. (2017). Career-training mentorship intervention via the Dreyfus model: Implication for career behaviors and practical skills acquisition in vocational electronic technology. *Journal of Vocational Behavior*, 103, 88–105.

6. 6.

Ductor, L. (2014). Does co-authorship lead to higher academic productivity? *Oxford Bulletin of Economics and Statistics*, 77(3), 385–407.

7. 7.

Kima, Y., Choib, T. Y., Yanb, T., & Dooley, K. (2011). Structural investigation of supply networks: A social network analysis approach. *Journal of Operations Management*, 29, 194–211.

[View PDF](#)

8. 8.

Your privacy

We use cookies to make sure that our website works properly, as well as some "optional" cookies to personalise content and advertising, provide social media features and analyse how people use our site. By accepting some or all optional cookies you give consent to the processing of your personal data, including transfer to third parties, some in countries outside of the European Economic Area that do not offer the same data protection standards as the country where you live. You can decide which optional cookies to accept by clicking on "Manage Settings", where you can also find more information about how your personal data is processed. [View our privacy policy](#)

[Manage Settings](#)

[Accept All Cookies](#)

of the pacific asia conference on information systems from 1993 to 2008. In *Pacific Asia Conference on Information Systems* (pp. 1–13).

10. 10.

Bruce Hoppe and Claire Reinelt. (2010). Social network analysis and the evaluation of leadership networks. *The Leadership Quarterly*, 21, 600–619.

11. 11.

Michael, F., & Martina, K. M. (2010). The impact of network structure on knowledge transfer: an application of social network analysis in the context of regional innovation networks. *The Annals of Regional Science*, 44(1), 21–38.

12. 12.

Manh, C. P., Yiwei, C., Ralf, K., & Matthias, J. (2011). A clustering approach for collaborative filtering recommendation using social network analysis. *Journal of Universal Computer*

[View PDF](#)

Your privacy

We use cookies to make sure that our website works properly, as well as some "optional" cookies to personalise content and advertising, provide social media features and analyse how people use our site. By accepting some or all optional cookies you give consent to the processing of your personal data, including transfer to third parties, some in countries outside of the European Economic Area that do not offer the same data protection standards as the country where you live. You can decide which optional cookies to accept by clicking on "Manage Settings", where you can also find more information about how your personal data is processed. [View our privacy policy](#)

[Manage Settings](#)

[Accept All Cookies](#)

analysis measures. *Journal of Informetrics*, 3, 594–607.

14. 14.

Tasleem, A., Rashid, A., & Asger, M. (2012). Scientific co-authorship social networks: A case study of computer science scenario in India. *International Journal of Computer Applications*, 52(12), 38–45.

15. 15.

Li, E. Y., Liao, C. H., & Yen, H. R. (2013). Co-authorship networks and research impact: A social capital perspective. *Research Policy*, 42(9), 1515–1530.

16. 16.

Tahereh, D., & Stefano, N. (2017). Research impact in co-authorship networks: a two-mode analysis. *Journal of Informetrics*, 11, 371–388.

[View PDF](#)

17. 17.

Marion, E. H. (2017). Sport communication

Your privacy

We use cookies to make sure that our website works properly, as well as some "optional" cookies to personalise content and advertising, provide social media features and analyse how people use our site. By accepting some or all optional cookies you give consent to the processing of your personal data, including transfer to third parties, some in countries outside of the European Economic Area that do not offer the same data protection standards as the country where you live. You can decide which optional cookies to accept by clicking on "Manage Settings", where you can also find more information about how your personal data is processed. [View our privacy policy](#)

[Manage Settings](#)

[Accept All Cookies](#)

density urban areas in China. *Journal of Cleaner Production*, 198, 940–961.

19. 19.

Yang, R. J., & Zou, P. (2014). Stakeholder associated risks and their interactions in complex green building projects: A social network model. *Building of Environment*, 73, 208–222.

20. 20.

Jose, L. O. (2014). Influence of co-authorship networks in the research impact: Ego network analyses from microsoft academic search. *Journal of Informetrics*, 8, 728–737.

21. 21.

William, R. (2006). *Definitions of community*. Johns Hopkins Bloomberg, School of Public Health, Johns Hopkins University.

[View PDF](#)

22. 22.

Matthew, D. (2014). Social network analysis.

Your privacy

We use cookies to make sure that our website works properly, as well as some "optional" cookies to personalise content and advertising, provide social media features and analyse how people use our site. By accepting some or all optional cookies you give consent to the processing of your personal data, including transfer to third parties, some in countries outside of the European Economic Area that do not offer the same data protection standards as the country where you live. You can decide which optional cookies to accept by clicking on "Manage Settings", where you can also find more information about how your personal data is processed. [View our privacy policy](#)

[Manage Settings](#)

[Accept All Cookies](#)

Bonacich, P. (1972). Factoring and weighting approaches to status scores and clique identification. *Journal of Mathematical Sociology*, 2(1), 113–120.

25. 25.

Fei, G., Katarzyna, M., Colin, C., & Sophia, T. (2015). Link prediction methods and their accuracy for different social networks and network metrics. *Scientific Programming*. <https://doi.org/10.1155/2015/172879>

Funding

The authors appreciate Covenant University for sponsoring the publication of this article.

Author information

[View PDF](#)

Affiliations

1 Department of Computer and Information

Your privacy

We use cookies to make sure that our website works properly, as well as some "optional" cookies to personalise content and advertising, provide social media features and analyse how people use our site. By accepting some or all optional cookies you give consent to the processing of your personal data, including transfer to third parties, some in countries outside of the European Economic Area that do not offer the same data protection standards as the country where you live. You can decide which optional cookies to accept by clicking on "Manage Settings", where you can also find more information about how your personal data is processed. [View our privacy policy](#)

[Manage Settings](#)

[Accept All Cookies](#)

Corresponding author

Correspondence to [Oluwole A. Odetunmibi](#).

Ethics declarations

Conflict of interest

There is no conflict of interest that is known to the authors.

Additional information

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Rights and permissions

[View PDF](#)

[Reprints and Permissions](#)

Your privacy

We use cookies to make sure that our website works properly, as well as some "optional" cookies to personalise content and advertising, provide social media features and analyse how people use our site. By accepting some or all optional cookies you give consent to the processing of your personal data, including transfer to third parties, some in countries outside of the European Economic Area that do not offer the same data protection standards as the country where you live. You can decide which optional cookies to accept by clicking on "Manage Settings", where you can also find more information about how your personal data is processed. [View our privacy policy](#)

[Manage Settings](#)[Accept All Cookies](#)

Wireless Pers Commun (2021).

<https://doi.org/10.1007/s11277-021-08646-2>

- Accepted 15 June 2021
- Published 23 June 2021
- DOI <https://doi.org/10.1007/s11277-021-08646-2>

Keywords

- Social network analysis
- Link prediction
- Centrality measures
- Computer science
- Research collaboration

Not logged in - 197.210.64.12

[View PDF](#)

Not affiliated

SPRINGER NATURE

Your privacy

We use cookies to make sure that our website works properly, as well as some "optional" cookies to personalise content and advertising, provide social media features and analyse how people use our site. By accepting some or all optional cookies you give consent to the processing of your personal data, including transfer to third parties, some in countries outside of the European Economic Area that do not offer the same data protection standards as the country where you live. You can decide which optional cookies to accept by clicking on "Manage Settings", where you can also find more information about how your personal data is processed. **[View our privacy policy](#)**

[Manage Settings](#)

[Accept All Cookies](#)