

Yakub Sebastian
Research Active Lecturer
Information Technology



Research interests

Dr Yakub Sebastian's main research interest is in data science, information retrieval, text mining, and network theory. He is an active advocate of the field Literature-Based Discovery, a specific branch of information retrieval whose goal is to improve computational approaches to hypothesis generation and novel knowledge discovery from multi-modal data sources. Aside from these, he shows interest in scientometrics and science mapping. Dr Sebastian was awarded Doctor of Philosophy in Computer Science by Monash University and is currently a Guest Associate Editor for journal Frontiers in Research Metrics and Analytics (Text Mining and Literature-Based Discovery section).

Employment

Lecturer - Information Technology

Research Active Lecturer
Information Technology
Faculty of Science and Technology
4 Jan 2024 → present

Adjunct Research Fellow

Swinburne University of Technology Sarawak Campus
Sarawak, Malaysia
23 Mar 2020 → 22 Mar 2022

Research outputs

Machine learning to predict virological failure among HIV patients on antiretroviral therapy in the University of Gondar Comprehensive and Specialized Hospital, in Amhara Region, Ethiopia, 2022

Mamo, D. N., Yilma, T. M., Fekadie, M., Sebastian, Y., Bizuayehu, T., Melaku, M. S. & Walle, A. D., Dec 2023, In: BMC Medical Informatics and Decision Making. 23, 1, p. 75 1 p., 75.

Prediction of contraceptive discontinuation among reproductive-age women in Ethiopia using Ethiopian Demographic and Health Survey 2016 Dataset: A Machine Learning Approach

Kebede, S. D., Sebastian, Y., Yeneneh, A., Chanie, A. F., Melaku, M. S. & Walle, A. D., Dec 2023, In: BMC Medical Informatics and Decision Making. 23, 1, p. 1-17 17 p., 9.

Modelling sustainable uniformity of the Australian national uniform legislation through ordinal regression

Hill, G., Sebastian, Y. & Bar-Siman-Tov, I., 21 Sept 2023, In: The Theory and Practice of Legislation. 11, 3, p. 232-255 24 p.

From knowledge discovery to knowledge creation: How can literature-based discovery accelerate progress in science?

Smalheiser, N. R., Hahn-Powell, G., Hristovski, D. & Sebastian, Y., 26 Jun 2023, *Artificial Intelligence in Science: Challenges, Opportunities and the Future of Research*. Nolan, A. (ed.). Paris: OECD Publishing, 8 p.

Hybrid phishing detection using joint visual and textual identity

Tan, C. L., Chiew, K. L., Yong, K. S. C., Sebastian, Y., Than, J. C. M. & Tiong, W. K., 15 Jun 2023, In: Expert Systems with Applications. 220, p. 1-16 16 p., 119723.

Spatial distribution and machine learning prediction of sexually transmitted infections and associated factors among sexually active men and women in Ethiopia, evidence from EDHS 2016

Kassaw, A-A. K., Yilma, T. M., Sebastian, Y., Birhanu, A. Y., Melaku, M. S. & Jemal, S. S., 23 Jan 2023, In: BMC Infectious Diseases. 23, 49, p. 1-17 17 p.

Editorial: Emerging areas in literature-based discovery: Emerging areas in literature-based discovery

Sebastian, Y. & Smalheiser, N. R., 19 Jan 2023, In: Frontiers in Research Metrics and Analytics. 8, 2 p., 1122547.

Information seeking about COVID-19 and associated factors among chronic patients in Bahir Dar city public hospitals, Northwest Ethiopia: A cross-sectional study

Kassie, S. Y., Melese, T., Handebo, S., Sebastian, Y. & Ngusie, H. S., Dec 2022, In: BMC Infectious Diseases. 22, 1, p. 1-11 11 p., 325.

Mobile Food Journaling Application with Convolutional Neural Network and Transfer Learning: A Case for Diabetes Management in Malaysia

Chew, J. T., Then, P. H. H., Sebastian, Y. & Raman, V., 2022, In: International Journal of Advanced Computer Science and Applications. 13, 9, p. 731-737 7 p.

Understanding the Usability of a Literature-Based Discovery System Among Clinical Researchers in Sarawak, Malaysia

Phang, C. S. J., Vong, W. T., Sebastian, Y., Raman, V. & Then, P. H. H., 2022, In: International Journal of Technology and Human Interaction. 18, 1, p. 1-21 21 p.

NNR-GL: A Measure to Detect Co-nonlinearity Based on Neural Network Regression Regularized by Group Lasso

Ohsaki, M., Kishimoto, N., Sasaki, H., Ikeura, R., Katagiri, S., Ohnishi, K., Sebastian, Y. & Then, P., Oct 2021, In: IEEE Access. 9, p. 132033-132052 20 p.

Detecting DDoS attacks using a cascade of machine learning classifiers based on Random Forest and MLP-ANN

Pinto, T. & Sebastian, Y., 27 Aug 2021, *Proceedings of the IEEE Madras Section International Conference 2021, MASCON 2021*. Piscataway, NJ: IEEE, Institute of Electrical and Electronics Engineers, p. 1-7 7 p. (Proceedings of the IEEE Madras Section International Conference 2021, MASCON 2021).

The boundary-spanning mechanisms of Nobel Prize winning papers

Sebastian, Y. & Chen, C., Aug 2021, In: PLoS One. 16, 8, p. 1-31 31 p., e0254744.

Evaluation of the Neural-network-based Method to Discover Sets and Representatives of Nonlinearly Dependent Variables

Ohsaki, M., Sasaki, H., Kishimoto, N., Katagiri, S., Ohnishi, K., Sebastian, Y. & Then, P. H. H., 8 Jun 2021, *2021 5th IEEE International Conference on Cybernetics (CYBCONF)*. Piscataway, NJ: IEEE, Institute of Electrical and Electronics Engineers, Vol. 1. p. 101-106 6 p. 9464151. (2021 5th IEEE International Conference on Cybernetics, CYBCONF 2021).

Accelerating innovations through literature-based discovery: Qualitative analysis of an early usability evaluation

Phang, C. S. J., Vong, W. T., Sebastian, Y., Raman, V., Tiong, X. T. & Then, P. H. H., 23 Feb 2021, *Proceedings of 2020 IEEE 8th R10 Humanitarian Technology Conference, R10-HTC 2020*. Piscataway, NJ: IEEE, Institute of Electrical and Electronics Engineers, Vol. 1. p. 1-6 6 p. 9356968. (IEEE Region 10 Humanitarian Technology Conference, R10-HTC; vol. 2020-December).

A graph-theoretic approach for the detection of phishing webpages

Tan, C. L., Chiew, K. L., Yong, K. S. C., Sze, S. N., Abdullah, J. & Sebastian, Y., Aug 2020, In: Computers and Security. 95, p. 1-14 14 p., 101793.

Design of the synthetic multivariate coefficient of variation chart based on the median run length

Lee, M. H., Lim, V. Y. C., Chew, X. Y., Lau, M. F., Yakub, S. & Then, P. H. H., 2020, In: Advances in Mathematics: Scientific Journal. 9, 9, p. 7397-7406 10 p., 9.

Design of IoT monitoring architecture for smart organic farming in Sarawak state of Malaysian Borneo

Jo, R. S., Raman, V., Lu, M., Sebastian, Y., Cameron, S. J., Ten, J. Y. H., Chong, T. K. S., Yap, F. L., Chiew, V., Yeo, D., Koay, R. K. M., Bong, B. S. C., Chew, K. T., Lim, V. Y. C. & Then, P. H., 2019, *SDPS 2019 Proceedings - 24th International Conference: Changing the World via Innovative Design and Applications of Automation and Artificial Intelligence*. Jololian, L., Guldal, S. & Lipscomb, M. M. (eds.). 1 ed. Taiwan: Society for Design and Process Science, p.

GLADIATER: An algorithm to support anomaly detection from a longitudinal cardiovascular and diabetes dataset
Chew, J. T., Sebastian, Y., Raman, V., Tiong, X. T., Fong, A. Y. Y. & Then, P. H. H., Oct 2018, In: *Journal of the American College of Cardiology*. 72, 16 (Supplement), p. C244-C245 2 p., GW29-e0830.

Anomaly detection from diabetes similarity graphs using community detection and Bayesian techniques
Sebastian, Y., Chew, J. T., Tiong, X. T., Raman, V., Fong, A. Y. Y. & Then, P. H. H., 5 Jan 2018, *Proceedings of the 12th International Conference on Ubiquitous Information Management and Communication, IMCOM 2018*. New York: Association for Computing Machinery (ACM), Vol. 1. p. 1-9 9 p. 32. (ACM International Conference Proceeding Series).

Advances in Diabetes Analytics from Clinical and Machine Learning Perspectives
Sebastian, Y., Tiong, X. T., Raman, V., Fong, A. Y. Y. & Then, P. H. H., Oct 2017, In: *International Journal of Design, Analysis and Tools for Integrated Circuits and Systems*. 6, 1, p. 32-37 6 p.

Literature-Based Discovery by Learning Heterogeneous Bibliographic Information Networks
Sebastian, Y., Jun 2017, In: *SIGIR Forum*. 51, 1, p. 75-76 2 p.

Emerging approaches in literature-based discovery: Techniques and performance review
Sebastian, Y., Siew, E. G. & Orimaye, S. O., 16 May 2017, In: *Knowledge Engineering Review*. 32, p. 1-35 35 p., e12.

Learning the heterogeneous bibliographic information network for literature-based discovery
Sebastian, Y., Siew, E. G. & Orimaye, S. O., 1 Jan 2017, In: *Knowledge-Based Systems*. 115, p. 66-79 14 p.

Predicting future links between disjoint research areas using heterogeneous bibliographic information network
Sebastian, Y., Siew, E. G. & Orimaye, S. O., 1 Jan 2015, *Advances in Knowledge Discovery and Data Mining - 19th Pacific-Asia Conference, PAKDD 2015, Proceedings*. Cao, T., Lim, E-P., Ho, T-B., Zhou, Z-H., Motoda, H. & Cheung, D. (eds.). Springer-Verlag London Ltd., p. 610-621 12 p. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); vol. 9078).

Domain-driven KDD for mining functionally novel rules and linking disjoint medical hypotheses
Sebastian, Y. & Then, P. H. H., Jul 2011, In: *Knowledge-Based Systems*. 24, 5, p. 609-620 12 p.

A paradigm shift: Combined literature and ontology-driven data mining for discovering novel relations in biomedical domain
Sebastian, Y., Loh, B. C. S. & Then, P. H. H., 1 Dec 2009, *ICDM Workshops 2009 - IEEE International Conference on Data Mining*. p. 51-57 7 p. 5360528. (ICDM Workshops 2009 - IEEE International Conference on Data Mining).

Towards natural language interface framework for automated medical analysis
Sebastian, Y., Loh, B. C. S. & Then, P. H. H., 12 Nov 2009, *Proceedings - 2009 2nd IEEE International Conference on Computer Science and Information Technology, ICCSIT 2009*. p. 5-9 5 p. 5234782. (Proceedings - 2009 2nd IEEE International Conference on Computer Science and Information Technology, ICCSIT 2009).

Cardiovascular diagnostics mining on Borneo island: From labour-intensive to prototype
Then, P. H. H., Fong, A. Y. Y., Sebastian, Y., Raman, V., Wong, Y. H. C. & Sim, K. H., 17 Aug 2009, In: *Informatics for Health and Social Care*. 34, 1, p. 1-9 9 p.

Software engineer's approach towards cardiac knowledge discovery
Sebastian, Y., Then, H. H. P., Raman, V., Wong, Y. H., Fong, A. Y. Y. & Sim, K. H., 16 Dec 2008, *Proceedings - International Symposium on Information Technology 2008, ITSIM*. 6 p. 4631644. (Proceedings - International Symposium on Information Technology 2008, ITSIM; vol. 2).

Impact on student learning from traditional continuous assessment and an e-assessment proposal
Jacob, S. M., Issac, B. & Sebastian, Y., 1 Dec 2006, *PACIS 2006 - 10th Pacific Asia Conference on Information Systems: ICT and Innovation Economy*. p. 1482-1496 15 p.

Activities