

Dr. Ritesh Ajoodha

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Contact

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Programming

Java, TensorFlow
Python, C++, C, C#
PHP, MatLab
JavaScript
Ruby
SQL & HTML

Typesetting

♥ \LaTeX , Microsoft
Office

Research Links

0000-0002-6443-8592
Google Scholar

Overview

This short CV only highlights my activities for last 3 years. Please request a long CV if required.

education

2018–2019 **Postgraduate Diploma** in Higher Education The University of the Witwatersrand, Johannesburg
Specialisation in Higher Education - **Awarded with distinction**. An accredited qualification designed to foster a scholarly and professional approach to university teaching, assessment and curriculum design. The curriculum includes the following subjects: Learning and Teaching in Higher Education (HE); Curriculum Design and Development in HE; Assessment in HE; and New Directions in HE. Honours equivalent, (NQF8).

2015–2017 **Doctor** of Philosophy in Computer Science The University of the Witwatersrand, Johannesburg
THESIS TITLE: "Influence Modelling and Learning between Dynamic Bayesian Networks using Score-based Structure Learning"
This thesis explores novel techniques to learn influence between partially observable stochastic processes by using Bayesian structure learning. (NQF10)

2015-2015 **Licentiate** Degree in Music Trinity College, London
The standard of piano performance is equivalent to the performance component on completion of a full-time undergraduate course at a conservatoire or university. (NQF8)

experience

2020–
Present **Senior Lecturer** Computer Science and Applied Mathematics, The University of the Witwatersrand
Senior lecturer for various CSAM subjects; supervisor for Honours, Masters, and Ph.D Students; the CSAM representative on the Faculty of Science Teaching and Learning Committee; COMS Second-year Undergraduate Coordinator; Machine Learning Consultant; Computer Science Researcher; and Serves on the School Executive.

awards, Funding, and Recognition

2021 **Fifth Highest Number of Publications in 2020** Faculty of Science
Recognised by the Dean of Science, Professor Nithiya Chetty, as having produced the fifth highest number of publications in the Faculty of Science after considering all the academics in Science. Link to Presentation: <https://www.youtube.com/watch?v=yQu8Fr36yhM>.

2022 **Post-PhD Thuthuka Scholarship** National Research Foundation
Valued at **R613 654**. The award of a Post-PhD Thuthuka Scholarship to a researcher is based on past, current and potential academic performance. Selection criteria includes academic merit, research potential, leadership qualities and previous awards, various prizes and honours. My application is used by the Head of the University Research Office (Prof. Robin Drennan: Robin.Drennan@wits.ac.za) as an example of an "excellent application". Reference: TTK190314423380.















- 2021 **Top 200 Young South Africans: Science and Technology** Mail & Guardian
The candidates sought are exceptional individuals who: Come from different backgrounds and places across the country; Are between 18 and 35 years old; Contribute to shaping South Africa; Assist to improve others' lives and the environment; Blaze new paths and open doors in their industries; Are at the top of their field, yet continue to innovate and exemplify excellence. There were 5600 nominations made and 200 were selected. <https://200youngsouthafricans.co.za/ritesh-ajoodha-29-2021/>
- 2021 **Best Paper Award** IEMTRONICS
Presented with the Best Paper Award for the paper "Music Genre Classification: A Review of Deep-Learning and Traditional Machine-Learning Approaches" in IEMTRONICS 2021 in association with IEEE at Totonto, ON, Canada on the 21-24 April 2021.
- 2021 **Faculty of Science First Runner-up Teaching Award** Faculty of Science
The Faculty of Science at the University of the Witwatersrand has established this award to recognise and promote excellence in teaching and learning in the Faculty.
- 2021 **Best Paper Award** IRTM
Presented with the Best Paper Award for the paper "Prediction of Student Success using Student Engagement with Learning Management System" in IRTM 2021 in association with Taylor and Francis at Kolkata, India on the 26th-28th February 2021.

publications

Refereed/Peer-reviewed Conference and Journal Outputs

- 2022 **Babalwa Nhose, Rudzani Malaudi, and Ritesh Ajoodha.** A CNN based model to forecast the South African Unemployment Rate 4th International Conference on Communication and Computational Technologies (ICCT 2022). Algorithms for Intelligent Systems. SPRINGER. <https://www.icct22.scrs.in/>. Scopus'
- 2022 **Bohlokoa Tilo, Rudzani Malaudi, and Ritesh Ajoodha.** The Effects of Feature Selection on the Forecast Accuracy of the South African Unemployment Rate. 4th International Conference on Communication and Computational Technologies (ICCT 2022). Algorithms for Intelligent Systems. SPRINGER. <https://www.icct22.scrs.in/>. Scopus'
- 2022 **Jared T. Naidoo, Ashwini Jadhav, and Ritesh Ajoodha.** Using Student Characteristics to Promote Student Success at Higher-education Institutions. 4th International Conference on Communication and Computational Technologies (ICCT 2022). Algorithms for Intelligent Systems. SPRINGER. <https://www.icct22.scrs.in/>. Scopus'
- 2022 **Prince Ngema, Ritesh Ajoodha, and Ashwini Jadhav.** Predicting the Completion of a Science Degree based on the First-year Marks at Higher-education Institutions. 4th International Conference on Communication and Computational Technologies (ICCT 2022). Algorithms for Intelligent Systems. SPRINGER. <https://www.icct22.scrs.in/>. Scopus'
- 2022 **Luyanda Makhoba, Ritesh Ajoodha, and Ashwini Jadhav.** Evaluation of Student Skill-Sets as predictors of Success at Higher-education Institutions. 4th International Conference on Communication and Computational Technologies (ICCT 2022). Algorithms for Intelligent Systems. SPRINGER. <https://www.icct22.scrs.in/>. Scopus'
- 2022 **Khanyisile Sixhaxa, Ashwini Jadhav and Ritesh Ajoodha.** Predicting Students Performance In Exams Using Machine Learning Techniques. 12th International Conference on COLFLUENCE, Amity University Uttar Pradesh, Noida, India. <https://www.amity.edu/aset/confluence2022/>. Scopus'
- 2022 **Thabo Makola, Rudzani Malaudi and Ritesh Ajoodha.** Using Feature Engineering Techniques to Improve Multivariate Model Forecasting of the South African Unemployment Rate. International Conference on Electrical, Computer and Energy Technologies (ICECET), Cape Town, South Africa. <http://www.icecet.com/>. Scopus'
- 2022 **Xolani Mti, Shalini Dukhan, and Ritesh Ajoodha.** The Influence of Interest in a Career Field and Academic Success in First Year Biology Students. International Conference on Electrical, Computer and Energy Technologies (ICECET), Cape Town, South Africa. <http://www.icecet.com/>. Scopus'




- 2022 **Ritesh Ajoodha and Benjamin Rosman.** Using Score-based Structure Learning to Computationally Learn Direct Influence between Hierarchical Dynamic Bayesian Networks. 2021 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE). Publisher: IEEE. Gold Coast, Australia. <https://ieeecsde.org/2021/>. Scopus'
- 2022 **Thabo Mandlazi, Ashwini Jadhav, and Ritesh Ajoodha.** Evaluating Deep Sequential Knowledge Tracing Models for Predicting Student Performance. 2021 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE). Publisher: IEEE. Gold Coast, Australia. <https://ieeecsde.org/2021/>. Scopus'
- 2022 **Siyabnga Hlomuka, Shalini Dukhan, and Ritesh Ajoodha.** To what extent do mark expectations of first years align with their academic achievement within biology based degrees at a South African university? The International Multidisciplinary Information Technology and Engineering Conference, Namibia University of Science and Technology, 2021. <https://imitec.nust.na/>. Scopus'
- 2022 **Xolani Mti, Shalini Dukhan, and Ritesh Ajoodha.** The Influence of Clarity on Career Choice and Academic Success in First Year. The International Multidisciplinary Information Technology and Engineering Conference, Namibia University of Science and Technology, 2021. <https://imitec.nust.na/>. Scopus'
- 2022 **Joel Mandlazi, Ashwini Jadhav, and Ritesh Ajoodha.** Educational data mining: using knowledge tracing as a tool for student success. The International Multidisciplinary Information Technology and Engineering Conference, Namibia University of Science and Technology, 2021. <https://imitec.nust.na/>. Scopus'
- 2022 **Takalani Mufamadi and Ritesh Ajoodha.** Crop Recommendation using Machine Learning Algorithms and Soil Attributes Data. The International Multidisciplinary Information Technology and Engineering Conference, Namibia University of Science and Technology, 2021. <https://imitec.nust.na/>. Scopus'
- 2022 **Manuel A. Fokam and Ritesh Ajoodha.** Influence of Contrastive Learning on Source Code Plagiarism Detection through Recursive Neural Networks. The International Multidisciplinary Information Technology and Engineering Conference, Namibia University of Science and Technology, 2021. <https://imitec.nust.na/>. Scopus'
- 2022 **Tamlin Love, Ritesh Ajoodha, and Benjamin Rosman.** Should I Trust You? Incorporating Unreliable Expert Advice in Human-Agent Interaction. Thirty-fifth Conference on Advances in Neural Information Processing Systems (NeurIPS 2021). <https://nips.cc/>. Scopus'
- 2022 **Eluwumi Buraimoh, Ritesh Ajoodha and Kershree Padayachee.** Importance of Data Re-Sampling and Dimensionality Reduction in Predicting Students' Success. The 3rd International Conference on Electrical, Communication, and Computer Engineering (ICECCE 2021) in association with IEEE at Kuala Lumpur, Malaysia. www.icecce.com. Scopus'
- 2021 **Yaseen Essa, Ritesh Ajoodha and Hugh Hunt.** Short-term Prediction of Lightning in Southern Africa using Autoregressive Machine Learning Techniques. 2021 IEEE International IOT, Electronics and Mechatronics Conference (IEMTRONICS). Publisher: IEEE Conference Location: Toronto, ON, Canada. <https://ieeexplore.ieee.org/document/9422493>. DOI: 10.1109/IEMTRONICS52119.2021.9422493. Electronic ISBN:978-1-6654-4067-7 Print on Demand (PoD) ISBN:978-1-6654-1160-8 Scopus'
- 2021 **Eluwumi Buraimoh, Ritesh Ajoodha and Kershree Padayachee.** Application of Machine Learning Techniques to the Prediction of Student Success. 2021 IEEE International IOT, Electronics and Mechatronics Conference (IEMTRONICS). Publisher: IEEE Conference Location: Toronto, ON, Canada. <https://ieeexplore.ieee.org/document/9422545>. DOI: 10.1109/IEMTRONICS52119.2021.9422545. Electronic ISBN:978-1-6654-4067-7 Print on Demand (PoD) ISBN:978-1-6654-1160-8 Scopus'
- 2021 **Judith G. K. Mabunda, Ashwini Jadhav and Ritesh Ajoodha.** A Review: Predicting Student Success at Various Levels of their Learning Journey in a Science Programme. 2021 IEEE International IOT, Electronics and Mechatronics Conference (IEMTRONICS). Publisher: IEEE Conference Location: Toronto, ON, Canada. <https://ieeexplore.ieee.org/document/9422519>. DOI: 10.1109/IEMTRONICS52119.2021.9422519. Electronic ISBN:978-1-6654-4067-7 Print on Demand (PoD) ISBN:978-1-6654-1160-8 Scopus'
- 2021 **Ndiatenda Ndou, Ritesh Ajoodha and Ashwini Jadhav.** Music Genre Classification: A Review of Deep-Learning and Traditional Machine-Learning Approaches. 2021 IEEE International IOT, Electronics and Mechatronics Conference (IEMTRONICS). Publisher: IEEE Conference Location: Toronto, ON, Canada. <https://ieeexplore.ieee.org/document/9422487>. DOI: 10.1109/IEMTRONICS52119.2021.9422487. Electronic ISBN:978-1-6654-4067-7 Print on Demand (PoD) ISBN:978-1-6654-1160-8 **(Best Paper Award)** Scopus'

- 2021 **Daniel T. Semwayo and Ritesh Ajoodha.** A Causal Bayesian Network Model for Resolving Complex Wicked Problems. 2021 IEEE International IOT, Electronics and Mechatronics Conference (IEMTRONICS). Publisher: IEEE Conference Location: Toronto, ON, Canada. <https://ieeexplore.ieee.org/document/9422608>. DOI: 10.1109/IEMTRONICS52119.2021.9422608. Electronic ISBN:978-1-6654-4067-7 Print on Demand (PoD) ISBN:978-1-6654-1160-8. **Scopus'**
- 2021 **Judith Mabunda, Ashwini Jadhav, and Ritesh Ajoodha.** Sentiment Analysis of Student Textual Feedback to Improve Teaching. IRTM 2021 (International conference on Interdisciplinary Research in Technology and Management in association with Taylor & Francis, Kolkata, India. Edition: 1st Edition, First Published: 2021, Imprint: CRC Press, Pages: 9, eBook ISBN: 9781003202240. For the online article click here  
- 2021 **Thabo Ramaano, Ritesh Ajoodha and Ashwini Jadhav.** Different Models Relating Prior Computer Experience with Performance in First Year Computer Science. IRTM 2021 (International conference on Interdisciplinary Research in Technology and Management in association with Taylor & Francis, Kolkata, India. Edition: 1st Edition, First Published: 2021, Imprint: CRC Press, Pages: 8, eBook ISBN: 9781003202240. For the online article click here  
- 2021 **Daisy Chabumba, Ashwini Jadhav, and Ritesh Ajoodha.** Predicting Telecommunication Customer Churn using Machine Learning Techniques. IRTM 2021 (International conference on Interdisciplinary Research in Technology and Management in association with Taylor & Francis, Kolkata, India. Edition: 1st Edition, First Published: 2021, Imprint: CRC Press, Pages: 12, eBook ISBN: 9781003202240. For the online article click here  
- 2021 **Eluwumi Buraimoh, Ritesh Ajoodha and Kershree Padayachee.** Prediction of Student Success using Student Engagement with Learning Management System. IRTM 2021 (International conference on Interdisciplinary Research in Technology and Management in association with Taylor & Francis, Kolkata, India. Edition: 1st Edition, First Published: 2021, Imprint: CRC Press, Pages: 7, eBook ISBN: 9781003202240. For the online article click here **(Best Paper Award) (Best Speaker Award)**  
- 2021 **Rudzani Mulaudzi and Ritesh Ajoodha.** Improving the Performance of Multivariate Forecasting Models Through Feature Engineering: A South African Unemployment Rate Forecasting Case Study. IRTM 2021 (International conference on Interdisciplinary Research in Technology and Management in association with Taylor & Francis, Kolkata, India. Edition: 1st Edition, First Published: 2021, Imprint: CRC Press, Pages: 6, eBook ISBN: 9781003202240. For the online article click here **(Best Speaker Award)**  
- 2021 **Skhumbuzo Dube and Ritesh Ajoodha.** Improving Library Book Retrieval By Using Topic Modeling. IRTM 2021 (International conference on Interdisciplinary Research in Technology and Management in association with Taylor & Francis, Kolkata, India. Edition: 1st Edition, First Published: 2021, Imprint: CRC Press, Pages: 6 eBook ISBN: 9781003202240. For the online article click here  
- 2021 **Yolanda Kanyama, Ritesh Ajoodha, Helen Seyler, and Hlanganani Tutu** Application of Recurrent Neural Networks for Scenario Modelling of Groundwater Levels: A Case Study of the Grootfontein Aquifer. IRTM 2021 International conference on Interdisciplinary Research in Technology and Management in association with Taylor & Francis, Kolkata, India. Edition: 1st Edition, First Published: 2021, Imprint: CRC Press, Pages: 10, eBook ISBN: 9781003202240. For the online article click here  
- 2021 **Darren Blackwell and Ritesh Ajoodha.** A Bayesian Approach to Understanding the Influence of Traffic Congestion Given the Road Structure. In: Yang XS., Sherratt S., Dey N., Joshi A. (eds) Proceedings of Sixth International Congress on Information and Communication Technology. Lecture Notes in Networks and Systems, vol 217. Springer, Singapore. Print ISBN 978-981-16-2101-7. Online ISBN 978-981-16-2102-4. https://doi.org/10.1007/978-981-16-2102-4_25. **Scopus'**
- 2021 **Dhevan S. Lau and Ritesh Ajoodha.** Music Genre Classification: A Comparative Study Between Deep Learning and Traditional Machine Learning Approaches. In: Yang XS., Sherratt S., Dey N., Joshi A. (eds) Proceedings of Sixth International Congress on Information and Communication Technology. Lecture Notes in Networks and Systems, vol 217. Springer, Singapore. Print ISBN 978-981-16-2101-7. Online ISBN 978-981-16-2102-4. https://doi.org/10.1007/978-981-16-2102-4_22. **Scopus'**
- 2021 **Rudzani Mulaudzi and Ritesh Ajoodha.** Demonstration that the Use of Feature Selection on High Dimensional South African Macroeconomic Data Results in Improved Performance. In: Yang XS., Sherratt S., Dey N., Joshi A. (eds) Proceedings of Sixth International Congress on Information and Communication Technology. Lecture Notes in Networks and Systems, vol 217. Springer, Singapore. Print ISBN 978-981-16-2101-7. Online ISBN 978-981-16-2102-4. https://doi.org/10.1007/978-981-16-2102-4_27. **Scopus'**
- 2021 **Tshepo Nkambule and Ritesh Ajoodha.** Classification of Music by Genre Using Probabilistic Models and Deep Learning Models. In: Yang XS., Sherratt S., Dey N., Joshi A. (eds) Proceedings of Sixth International Congress on Information












and Communication Technology. Lecture Notes in Networks and Systems, vol 217. Springer, Singapore. Print ISBN 978-981-16-2101-7. Online ISBN 978-981-16-2102-4. https://doi.org/10.1007/978-981-16-2102-4_17. Scopus'

- 2021 **Tristan K. Nagan and Ritesh Ajoodha.** Evaluating the Performance of Hybrid Quantum-Classical Convolutional Neural Networks on NISQ Devices. In: Yang X.S., Sherratt S., Dey N., Joshi A. (eds) Proceedings of Sixth International Congress on Information and Communication Technology. Lecture Notes in Networks and Systems, vol 217. Springer, Singapore. Print ISBN 978-981-16-2101-7. Online ISBN 978-981-16-2102-4. https://doi.org/10.1007/978-981-16-2102-4_20. Scopus'
- 2021 **Marc Marsden and Ritesh Ajoodha.** Algorithmic Music Composition using Probabilistic Graphical Models and Artificial Neural Networks. 2021 Southern African Universities Power Engineering Conference/ Robotics and Mechatronics/ Pattern Recognition Association of South Africa (SAUPEC/ RobMech/ PRASA). Publisher: IEEE. Potchefstroom, South Africa, 2021, DOI: [10.1109/SAUPEC/RobMech/PRASA52254.2021.9377235](https://doi.org/10.1109/SAUPEC/RobMech/PRASA52254.2021.9377235). Electronic ISBN: 978-1-6654-0345-0. Print on Demand (PoD) ISBN: 978-1-6654-4788-1. <https://ieeexplore.ieee.org/document/9377235>. Scopus'
- 2021 **Evans Thulare, Ritesh Ajoodha and Ashwini Jadhav.** An Empirical Analysis and Application of the Expectation-Maximization and Matrix Completion Algorithms for Varying Degrees of Missing Data. 2021 Southern African Universities Power Engineering Conference/ Robotics and Mechatronics/ Pattern Recognition Association of South Africa (SAUPEC/ RobMech/ PRASA). Publisher: IEEE. Potchefstroom, South Africa, 2021, DOI: [10.1109/SAUPEC/RobMech/PRASA52254.2021.9377210](https://doi.org/10.1109/SAUPEC/RobMech/PRASA52254.2021.9377210). Electronic ISBN: 978-1-6654-0345-0. Print on Demand (PoD) ISBN: 978-1-6654-4788-1 <https://ieeexplore.ieee.org/document/9377210>. Scopus'
- 2021 **Ndiatenda Ndou, Ritesh Ajoodha, and Ashwini Jadhav.** A Case Study to Enhance Student Support Initiatives Through Forecasting Student Success in Higher-Education. Advances in Science, Technology and Engineering Systems Journal. Special Issue on Innovation in Computing, Engineering Sciences & Technology. Volume 6, Issue 1, Page No 230-241, 2021. Adv. Sci. Technol. Eng. Syst. J. 6(1), 230-241 (2021); DOI: 10.25046/aj060126 <https://astesj.com/v06/i01/p26/>. Scopus'
- 2021 **Lonia Masangu, Aswini Jadhav, and Ritesh Ajoodha.** Predicting Student Academic Performance Using Data Mining Techniques. Advances in Science, Technology and Engineering Systems Journal. Special Issue on Multidisciplinary Sciences and Engineering. Volume 6, Issue 1, Page No 153-163, 2021. Adv. Sci. Technol. Eng. Syst. J. 6(1), 153-163 (2021); DOI: 10.25046/aj060117 <https://astesj.com/v06/i01/p17/>. Scopus'
- 2020 **Rudzani Mulaudzi and Ritesh Ajoodha.** Application of deep learning to forecast the South African unemployment rate: a multivariate approach. 2020 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE). Publisher: IEEE. Gold Coast, Australia. <https://ieeexplore.ieee.org/document/9411581>. DOI: [10.1109/CSDE50874.2020.9411581](https://doi.org/10.1109/CSDE50874.2020.9411581). Electronic ISBN:978-1-6654-1974-1. Print on Demand (PoD) ISBN:978-1-6654-2991-7. Scopus'
- 2020 **Yaseen Essa, Ritesh Ajoodha and Hugh Hunt.** Evaluation: A Long-Short-Term-Memory Recurrent Neural Network Model for Lightning Flash Prediction within Southern Africa using historical time-series data. 2020 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE). Publisher: IEEE. Gold Coast, Australia. <https://ieeexplore.ieee.org/document/9411544>. DOI: [10.1109/CSDE50874.2020.9411544](https://doi.org/10.1109/CSDE50874.2020.9411544). Electronic ISBN:978-1-6654-1974-1. Print on Demand (PoD) ISBN:978-1-6654-2991-7. Scopus'
- 2020 **Lomthandazo Matsane, Ritesh Ajoodha, and Ashwini Jadhav.** The use of Automatic Speech Recognition in education for identifying attitudes of the Speakers. 2020 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE). Publisher: IEEE. Gold Coast, Australia. <https://ieeexplore.ieee.org/document/9411528>. DOI: [10.1109/CSDE50874.2020.9411528](https://doi.org/10.1109/CSDE50874.2020.9411528). Electronic ISBN:978-1-6654-1974-1. Print on Demand (PoD) ISBN:978-1-6654-2991-7. Scopus'
- 2020 **Yolanda Kanyama, Ritesh Ajoodha, Helen Seyler, and Hlanganani Tutu.** Application of Artificial Neural Networks to Forecast River Discharge Rates: A Case Study of the Grootfontein Aquifer. 2020 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE). Publisher: IEEE. Gold Coast, Australia. <https://ieeexplore.ieee.org/document/9411554>. pp. 1-6. DOI: [10.1109/CSDE50874.2020.9411554](https://doi.org/10.1109/CSDE50874.2020.9411554). Electronic ISBN:978-1-6654-1974-1. Print on Demand (PoD) ISBN:978-1-6654-2991-7. Scopus'
- 2020 **Ritesh Ajoodha and Benjamin Rosman.** Discovery of Influence between Processes Represented by Hidden Markov Models. The International IOT, Electronics and Mechatronics Conference (IEMTRONICS 2020) in association with IEEE Vancouver section, Vancouver, Canada. <https://ieeexplore.ieee.org/document/9216439>. DOI: 10.1109/IEMTRONICS51293.2020.9216439. Electronic ISBN: 978-1-7281-9615-2. Print on Demand (PoD) ISBN: 978-1-7281-9616-9. (Best Speaker Award) Scopus'

- 2020 **Yolanda Kanyama, Ritesh Ajoodha, Helen Seyler, Ndivhuwo Makondo, and Hlanganani Tutu.** Application of Machine Learning Techniques in Forecasting Groundwater Levels in the Grootfontein Aquifer. The International Multidisciplinary Information Technology and Engineering Conference, Kimberley, South Africa, 2020, pp. 1-8, DOI: 10.1109/IMITEC50163.2020.9334142, Electronic ISBN:978-1-7281-9520-9, Print on Demand (PoD), ISBN:978-1-7281-9521-6 <https://ieeexplore.ieee.org/document/9334142>. Scopus'
- 2020 **Nastassja Philippou, Ritesh Ajoodha, and Ashwini Jadhav.** Using Machine Learning Techniques and Matric Grades to Predict the Success of First Year University Students. The International Multidisciplinary Information Technology and Engineering Conference, Kimberley, South Africa, 2020, pp. 1-5, DOI: 10.1109/IMITEC50163.2020.9334087, Electronic ISBN:978-1-7281-9520-9, Print on Demand (PoD), ISBN:978-1-7281-9521-6 <https://ieeexplore.ieee.org/document/9334087>. Scopus'
- 2020 **Ndiatenda Ndou, Ritesh Ajoodha, and Ashwini Jadhav.** A Case Study: Educational Data-mining to Determine Student Success at Higher Education Institutions. The International Multidisciplinary Information Technology and Engineering Conference, Kimberley, South Africa, 2020, pp. 1-8, DOI: 10.1109/IMITEC50163.2020.9334139, Electronic ISBN:978-1-7281-9520-9, Print on Demand (PoD), ISBN:978-1-7281-9521-6 <https://ieeexplore.ieee.org/document/9334139>. Scopus'
- 2020 **Rudzani Mulaudzi and Ritesh Ajoodha.** An Exploration of Machine Learning Models to Forecast the Unemployment Rate of South Africa: A Univariate Approach. The International Multidisciplinary Information Technology and Engineering Conference, Kimberley, South Africa, 2020, pp. 1-7, DOI: 10.1109/IMITEC50163.2020.9334090, Electronic ISBN:978-1-7281-9520-9, Print on Demand (PoD), ISBN:978-1-7281-9521-6 <https://ieeexplore.ieee.org/document/9334090>. Scopus'
- 2020 **Noluthando Mngadi, Ritesh Ajoodha, and Ashwini Jadhav.** A Conceptual Model to Identify Vulnerable Undergraduate Learners at Higher-Education Institutions. The International Multidisciplinary Information Technology and Engineering Conference (IMITEC), Kimberley, South Africa, 2020, pp. 1-8, DOI: 10.1109/IMITEC50163.2020.9334103, Electronic ISBN:978-1-7281-9520-9, Print on Demand (PoD), ISBN:978-1-7281-9521-6 <https://ieeexplore.ieee.org/document/9334103>. Scopus'
- 2020 **Ritesh Ajoodha, Shalini Dukhan, and Ashwini Jadhav.** Data-driven Student Support for Academic Success by Developing Student Skill Profiles. The International Multidisciplinary Information Technology and Engineering Conference, Kimberley, South Africa, 2020, pp. 1-8, DOI: 10.1109/IMITEC50163.2020.9334109, Electronic ISBN:978-1-7281-9520-9, Print on Demand (PoD), ISBN:978-1-7281-9521-6 <https://ieeexplore.ieee.org/document/9334109>. Scopus'
- 2020 **Ritesh Ajoodha, Ashwini Jadhav, and Shalini Dukhan.** Forecasting Learner Attrition for Student Success at a South African University. Association for Computing Machinery. In Conference of the South African Institute of Computer Scientists and Information Technologists 2020 (SAICSIT '20), September 14–16, 2020, Cape Town, South Africa. ACM, New York, NY, USA, 10 pages. pages: 19-28. DOI:10.1145/3410886.3410973. <https://doi.org/10.1145/3410886.3410973>. 
- 2020 **Tamlin Love and Ritesh Ajoodha.** Building Undirected Influence Ontologies Using Pairwise Similarity Functions. International SAUPEC/RobMech/PRASA Conference, Cape Town, South Africa, 2020, pp. 1-6, DOI: 10.1109/SAUPEC/RobMech/PRASA48453.2020.9040984. Electronic ISBN:978-1-7281-4162-6, Print on Demand (PoD), ISBN:978-1-7281-4163-3 <https://ieeexplore.ieee.org/document/9040984>. Scopus'
- 2020 **Tasneem Abed, Ritesh Ajoodha, and Ashwini Jadhav.** A Prediction Model to Improve Student Placement at a South African Higher Education Institution. 2020 International SAUPEC/RobMech/PRASA Conference, Cape Town, South Africa, 2020, pp. 1-6, doi: 10.1109/SAUPEC/RobMech/PRASA48453.2020.9041147. Electronic ISBN: 978-1-7281-4162-6, Print on Demand (PoD), ISBN: 978-1-7281-4163-3 <https://ieeexplore.ieee.org/document/9041147>. Scopus'
- 2020 **Gcobisile Matafeni and Ritesh Ajoodha.** Using Big Data Analytics to Predict Learner Attrition based on First Year Marks at a South African University. Advances in Science, Technology and Engineering Systems Journal. Special Issue on Multidisciplinary Sciences and Engineering. Volume 5, Issue 5, Page No 920-926, 2020. Adv. Sci. Technol. Eng. Syst. J. 5(5), 920-926 (2020); DOI: 10.25046/aj0505112 <https://astesj.com/v05/i05/p112/>. Scopus'
- 2020 **Ritesh Ajoodha and Benjamin Rosman.** Learning the Influence between Partially Observable Processes using Score-based Structure Learning. Advances in Science, Technology and Engineering Systems Journal. Special Issue on Multidisciplinary Sciences and Engineering. Volume 5, Issue 5, Page No 16-23, 2020. DOI: 10.25046/aj050503. <https://astesj.com/v05/i05/p03>. Scopus'

- 2018 **Ritesh Ajoodha and Benjamin Rosman.** Advancing Intelligent Systems by Learning the Influence Structure between Partially Observed Stochastic Processes using IoT Sensor Data. AAAI SmartIoT: AI Enhanced IoT Data Processing for Intelligent Applications, New Orleans Riverside, New Orleans, Louisiana, USA., May 2018. <https://aaai.org/ocs/index.php/WS/AAAIW18/paper/download/16840/15567>. 
- 2018 **Ritesh Ajoodha and Benjamin Rosman.** Tracking Influence between Naïve Bayes Models using Score-Based Structure Learning. The Pattern Recognition Association of South Africa (PRASA). DOI: 10.1109/RoboMech.2017.8261134 <https://ieeexplore.ieee.org/document/8261134>. 
- 2015 **Ritesh Ajoodha, Richard Klein, Benjamin Rosman.** Single-labelled Music Genre Classification using Content-based Features. Pattern Recognition Association of South Africa, IEEE. Port Elizabeth, South Africa. DOI: 10.1109/RoboMech.2015.7359500. <https://ieeexplore.ieee.org/document/7359500>. 
- 2014 **Ritesh Ajoodha, Richard Klein, Marija Jakovljevic.** Using Statistical Models and Evolutionary Algorithms in Algorithmic Music Composition. In Khosrow-Pour Mehdi, editor, The Encyclopedia of Information Science and Technology, 3rd edition, IGI Global: International Publisher of Progressive Academic Research Books and Journals. Volume 10, Number doi:10.4018/978-1-4666-5888-2, pages e37893, Hershey, Pennsylvania, United States. <https://www.igi-global.com/book/encyclopedia-information-science-technology-third/76156>.

Dissertations (M.Sc.) and Theses (Ph.D.)

- 2022 **Tamlin Love.** Should I Trust You? Incorporating Unreliable Expert Advice in Human-Agent Interaction. MSc Dissertation. Supervised by Dr. Ritesh Ajoodha and Prof. Benjamin Rosman. The University of the Witwatersrand, South Africa. <http://wiredspace.wits.ac.za>. **(Awarded with Distinction)** 
- 2021 **Eluwumi F. Buraimoh.** Predicting Student Success using Student Engagement in the Online Component of a Blended-Learning Course. MSc Mini-dissertation. Supervised by Dr. Ritesh Ajoodha and Dr. Kershree Padayachee. The University of the Witwatersrand, South Africa. <http://wiredspace.wits.ac.za>. 
- 2021 **Rudzani Mulaudzi.** A Machine Learning Approach to Quantifying and Relating the Determinants of Unemployment in South Africa. MSc Dissertation. Supervised by Dr. Ritesh Ajoodha. The University of the Witwatersrand, South Africa. <http://wiredspace.wits.ac.za>. **(Awarded with Distinction)** 
- 2021 **Yolanda Kanyama.** Application of machine learning techniques in predicting groundwater levels and discharge rates in the North West aquifers. MSc Dissertation. Supervised by Dr. Ritesh Ajoodha and Dr. Hlanganani Tutu. The University of the Witwatersrand, South Africa. <http://wiredspace.wits.ac.za>. **(Awarded with Distinction)** 
- 2021 **Judith G. K. Mabunda.** Using Sentiment Analysis on Forums to deduce the Quality of Assessment. Science Occasional Studies (Postgraduate). Supervised by Dr. Ritesh Ajoodha. The University of the Witwatersrand, South Africa. <http://wiredspace.wits.ac.za>. 
- 2020 **Noluthando Mngadi.** A Theoretical Model to Predict Undergraduate Learner Attrition using Background, Individual, and Schooling Attributes. MSc Mini-dissertation. Supervised by Dr. Ritesh Ajoodha. The University of the Witwatersrand, South Africa. <http://wiredspace.wits.ac.za>. **(Awarded with Distinction)** 
- 2020 **Evans Molahlegi Thulare.** An Empirical Analysis and Application of the Expectation-Maximization and Matrix Completion Algorithms for Varying Degrees of Missing Data. MSc Mini-dissertation. Supervised by Dr. Ritesh Ajoodha. The University of the Witwatersrand, South Africa. <http://wiredspace.wits.ac.za>. 
- 2020 **Macdaline Raisibe Mathye.** A Theoretical Model To Predict Undergraduate Attrition Based On Background And Enrollment Characteristics. MSc Mini-dissertation. Supervised by Dr. Ritesh Ajoodha. The University of the Witwatersrand, South Africa. <http://wiredspace.wits.ac.za>. 
- 2018 **Ritesh Ajoodha.** Influence Modelling and Learning between Dynamic Bayesian Networks using Score-based Structure Learning. Ph.D. Thesis. Supervised by Dr. B. Rosman. The University of the Witwatersrand, South Africa. <http://wiredspace.wits.ac.za/handle/10539/25760>. 
- 2015 **Ritesh Ajoodha.** Automatic Music Genre Classification. Masters Dissertation. Supervised by Dr. B. Rosman and Dr. R Klein. The University of the Witwatersrand, South Africa. <http://wiredspace.wits.ac.za/handle/10539/18554>. 
- 2013 **Ritesh Ajoodha.** Context-free Grammars, Gaussian Distributions and Evolutionary Algorithms in Algorithmic Music Composition. Research Report. Supervised by Dr. R. Klein. The University of the Witwatersrand, South Africa. 

- 2021 **CSDE Full paper presentation 2021** CSDE
Presentation for the paper: "Using Score-based Structure Learning to Computationally Learn Direct Influence between Hierarchical Dynamic Bayesian Networks". <https://ieeecsde.org/2021/>
- 2021 **External Examiner for the Stellenbosch University 2021** CSDE
Examined MSc dissertations for the Department of Electrical and Electronic Engineering <https://www.ee.sun.ac.za/>. Contact Prof. Corne Van Daalen for more information at: cvdaalen@sun.ac.za.
- 2021 **CSDE Session Chair 2021** CSDE
Served as the session chair for the CSDE Oral Presentations 10 December 2021; Time: 14.15 – 16:00 AEST <https://ieeecsde.org/2021/>. Contact Dr. A B M Shawkat Ali for more information at: Shawkat.Ali@ieee.org.
- 2021 **Selection Committee for the WITS DeepMind Scholarship** The National Research Foundation
DeepMind, an Alphabet company and a world leader in the field of artificial intelligence research and its applications in the real world, has donated scholarship funding for four Wits students to complete their Masters degrees in the field of machine learning. Contact Prof. Benjamin Rosman for more information at: benjros@gmail.com
- 2021 **Reviewer for the NRF Thuthuka Grant** The National Research Foundation
The Thuthuka funding instrument, initiated in 2001, is central to the NRF's human capital development strategy in so far as it relates to advancing the equity and redress agenda within the research sphere.
- 2021 **IEMTRONICS Session Chair** IEMTRONICS 2021
Served as the session chair for the IEMTRONICS Oral Presentations 21st April, 2021; Time: 10:30 A.M-12:15 P.M Eastern Daylight Time (EDT). <https://iemtronics.org/>. Contact Prof. (Dr.) Malay Gangopadhyay (Technical Co-Chair) for more information at: malay.ganguly@iemcal.com.
- 2021 **Pearson Book Collaborator: Stallings's Computer Organization and Architecture: Designing for Performance** Pearson
Contributor on the Global Edition of Stallings's Computer Organization and Architecture: Designing for Performance. Click here for a [link to Book](#). Credited with textbook acknowledgements, and an honorarium as an expression of appreciation (**GBP 460**).
- 2021 **External Examiner for Botho University** The University of Botswana
Serves as the external examiner for MSc dissertations, Faculty of Engineering & Technology. Contact Dr. Srinath Doss for more details: srinath.doss@bothouniversity.ac.bw. (Honorarium at **R2 600** per MSc dissertation.)
- 2021 **PRASA Track Director** PRASA
The Track Directors for the PRASA track in the RAPDASA 21 Conference. <https://site.rapdasa.org/annual-conference/>. Proceedings can be found here.
- 2021 **Pearson Book Collaborator: Harvey and Paul Deitel's book Intro to Python for Computer Science and Data Science** Pearson
Collaborator on the Global Edition of Harvey and Paul Deitel's book Intro to Python for Computer Science and Data Science: Learning to Program with AI, Big Data and The Cloud. Click here for a [link to Book](#). Credited with textbook acknowledgements, and an honorarium as an expression of appreciation (**GBP 735.06**).
- 2021-Present **COMS Second-year Undergraduate Coordinator** School of CSAM
Coordinates computer science second year undergraduate curriculum, assessment, and teaching and learning activities.
- 2020-Present **School Executive** School of CSAM
Member of the school executive committee which assists to advise the head of school.
- 2020-Present **External Examiner for the University of Pretoria** School of Computer Science
Served as an external examiner for the University of Pretoria MSc dissertations at the School of Computer Science. Contact Elmarie Willemse for more details ewillemse@cs.up.ac.za.

- 2018-2021 **Teaching and Learning Committee Member** School of CSAM
Coordinates all teaching and learning activities for the School of Computer Science (with Mr. Abdul Carrim).
- 2019-Present **Theoretical Computer Science External Moderator** School of Computing
Served as a Theoretical Computer Science External Moderator for the UNISA COS3701 (Theoretical Computer Science III). The course is based on COHEN, Daniel I.A. Introduction to computer theory, 2nd edition. John Wiley & sons(1997) Chapter 12 -25. Contact Ms Daphney Rakoti Mokwana for more details Mokwadr@unisa.ac.za.
- 2019-Present **External Examiner for UNISA** School of Computing
Served as an external examiner for the UNISA Honours in Computing. The topics of the honours reports were mainly in the domain of model-based machine learning. Contact Prof. Ian Sanders for more details sandeid@unisa.ac.za.