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Summary

Research

- Investigator in 11 external research grants with a total funding of over AUD 4 million, three grants from US and Australian Defence and Intelligence agencies with total funding over AUD 0.5 million as the lead CI
- Supervised 1 PhD thesis and 12 master's major/minor theses to completion, currently supervising 2 research fellows, 8 HDR students and two research assistants
- Received Deakin School of IT Research Award for Industry Engagement (2022) and for Excellence in Early Career Research Performance (2021)
- Visited US Air Force Office of Scientific Research (AFOSR) research labs in Viriginia USA on an invited fully funded research collaboration visit (2022) and working very closely with them since then

Teaching

- 10 years of experience in teaching at tertiary levels in Australia
- Successfully (re)developed and coordinated/chaired several large units and championing effective teaching in the school in terms of student engagement and support
- Received a Deakin University Faculty of Science, Engineering and Built Environment Learning and Teaching Award (2022) and a School of Information Technology Learning and Teaching Award (2021)
- Mentored 6 final year capstone project teams.

Leadership

- Leading Deakin School of IT Industry Research in AI and Machine Leaning as an Industry Practice Lead
- Co-leading the Machine Learning for Decision Support (MLDS) research group at Deakin University School of Information Technology, Waurn Ponds Campus
- Providing academic leadership in the Deakin School of IT as a member of the School Learning and Teaching Executive Committee and the Director of the Graduate Certificate of IT course
- Served as a Co-Deputy Director of the Bachelor of Information Technology course, Deakin School of IT
- Served as an EMCR member of the School Research Committee, Federation University School of Science, Engineering, and IT.

1. Research Interests

Data Mining (DM), Machine Learning (ML) and Artificial Intelligence (AI) and their applications in domains such as Defence, National Intelligence, Cybersecurity, Advanced Manufacturing, and Healthcare, particularly in making DM/ML/AI algorithms flexible, robust, and interpretable/explainable to use in real-world problems

2. Teaching

Databases, Data Analytics and Machine Learning, Programming, System Analysis and Design, Software Engineering, Project Management, Business Information System, IT Placement, Research & Development in IT, Professional Skills in IT, Capstone Projects, and Coursework Research

3. Appointments Held

2016-18 *Lecturer (full-time)*, Federation University, Mt Helen, Australia
2013-15 *Lecturer (sessional)*, ATMC (Federation University), Melbourne, Australia
2014-15 *Data Engineer (part-time)*, Gyde Inc., Melbourne, Australia
2014-15 *Teaching Associate (sessional)*, Monash University, Clayton, Australia

2014-15 *Research Assistant (casual)*, Federation University, Churchill, Australia
2013-13 *Software Developer (casual)*, Monash University, Clayton, Australia
2012-13 *Research Assistant (casual)*, Monash University, Churchill, Australia
2009-10 *Research Trainee (full-time)*, Katholieke University, Leuven, Belgium
2008-09 *Software Developer (full-time)*, Ingenico Asia Pacific, Sydney, Australia
2006-06 *IT Officer (full-time)*, Nepal Bank Limited, Damauli, Nepal
2002-05 *Computer Teacher (full-time)*, Kathmandu Don Bosco School, Kathmandu, Nepal

4. Education

2020 *Grad. Cert. in Higher Education Learning & Teaching*, Deakin University, Australia
2017 *PhD (Computer Science)*, Monash University, Australia
2012 *Master of IT (Research)*, Monash University, Australia
2008 *Master of IT (Coursework)*, University of Southern Queensland, Australia
2005 *Bachelor in IT*, Purbanchal University, Nepal

5. Research Grants

External – over $4 million (over $0.5 million as the lead-CI)

2023-26 *DETVic Research Grant* (Co-Investigator) - $1,112,571, funded by the Department of Education and Training, State Government of Victoria, Australia [Deakin University]
2023-26 *International Partnership Grant* (Co-Investigator) - $560,000 (US$360,000), funded by the Technology Innovation Institute, UAE [Deakin University]
2022 *AI for Decision Making Initiative grant – Round 3* (Co-Investigator) - $30,000, Defence Science Technology (DST) Group Australia [Deakin University]
2022-25 *Basic Science Research grant* (**Lead Investigator**) – $330,000 (US$225,000), funded by the Air Force Office of Scientific Research (AFOSR) Asian Office of Aerospace Research and Development (AOARD) [Deakin University]
2022 *Window On Science (WOS) Travel grant* (**Lead Investigator**) – US$6,800, funded by the US Air Force Office of Scientific Research (AFOSR) to visit US Space and Air Force Research labs in Virginia USA [Deakin University]
2021 *AI for Decision Making Initiative grant – Round 2* (Co-Investigator) - $20,000, funded by the Office of National Intelligence (ONI) Australia [Deakin University]
2020-23 *Basic Science Research grant* (**Lead Investigator**) – $216,000 (US$150,000), funded by the Air Force Office of Scientific Research (AFOSR) Asian Office of Aerospace Research and Development (AOARD) and Office of Naval Research (ONR) Global, USA [Deakin University]
2020-22 *AFOSR-DST Australia Autonomy Initiative grant* (Co-Investigator) - $373,199, funded by the Air Force Office of Scientific Research (AFOSR) and Defence Science Technology (DST) Group Australia (initiated and coordinated the grant application in terms of assembling AUS-US team involving three universities and preparing research proposal) [Deakin University]
2020-21 *Operation Research Network (ORNet) grant* (Co-Investigator) - $97,000, funded by Defence Science Technology (DST) Group Australia [Deakin University]
2020 *AI for Decision Making Initiative grant* (**Lead Investigator**) - $20,000, funded by the Office of National Intelligence (ONI) Australia [Deakin University]
2019-21 *WorkSafe Research grant* (Co-Investigator) - $1,303,141, funded by WorkSafe, WorkWell Improvement Fund (Round 2) [Federation University]

Internal - $72,000 ($40,000 as the lead CI)

2022 *Interdisciplinary Project Incubator Grant* (Co-Investigator) - $12,000, Deakin Science and Society Network
2022 *Deakin Design Seeding Grant* (**Lead Investigator**) - $10,000, supported by Deakin Learning Futures Deakin University to redevelop the Grad Cert of IT course
2021 *Early Career Researcher small grant* (**Lead Investigator**) - $10,000, supported by the School of Information Technology, Deakin University
2021 *Program Initialization grant* (Co-Investigator) - $20,000, supported by the School of Information

Technology, Deakin University

2021 *Peer-Reviewed ECR Support Scheme (PRESS2021) grant* (**Lead Investigator**) - $5,000, supported by the Faculty of Science, Engineering and Built Environment (SEBE), Deakin University

2020 *Peer-Reviewed ECR Support Scheme (PRESS2020) grant* (**Lead Investigator**) - $5,000, supported by the Faculty of Science, Engineering and Built Environment (SEBE), Deakin University

2019 *ECR startup grant* (**Lead Investigator**) - $10,000, offered by the School of IT, Deakin University

6. Academic Leadership & Service

Research Leadership

- *Co-Leader, Machine Learning for Decision Support (MLDS) Research Group,* Deakin School of IT
  - leading a group of three full-time academic staff, 1 postdoctoral research fellow, 4 PhD students, 1 honour's student and 1 research assistant; hiring four more PhD students and one part-time (0.5) research fellow for three years very soon
  - secured over $1 million of research funding in external grants for the group
  - helping/mentoring junior colleagues to engage with industry partners and funding agencies for research collaboration and securing research funding. Because of my encouragement and support one colleague secured a grant of over $0.5 million from an international agency.
- *Industry Practice Lead (Machine Learning),* Deakin University, School of IT (2022-now)
  - helping and encouraging colleagues in the school, particularly EMCRs, to engage with industry partners and applying for research funding
  - played significant role to motivate EMCRs in the School to apply for recent AI for Decision Making Initiatives (AI4DMI) 2022 grant funded by Australian Defence and Office of National Intelligence, 11 proposals submitted and five of them were funded (four of them were led by EMCRs)
- *Taskforce Member*, Deakin School of IT Research Centre Restructure Taskforce and HDR Experience Improvement Taskforce as part of the school's initiative to redefine its research structure and strategies (2021-now)
  - proposed a research structure that is centered around supporting EMCRs and PhD students that the School is considering to implement
  - helped to develop a process to engage HDR students more in the school activities and encourage them to connect with each other
  - contributed significantly to developing a weel-defined criteria to rank PhD applicants in the school
- *ECR Representative*, Research Committee, Federation University, School of Science, Eng & IT (2018)
  - advocated strongly for more support to ECRs to help them their research going and managed to change the school's HDR supervision policy to ensure at least one ECR co-supervisor in all university/school funded HDR scholarships.

Teaching Leadership

- *Course Director*, Graduate Certificate in IT, Deakin University, School of IT (2022-now)
  - manages a fairly large course in terms of student numbers which provides foundational knowledge to non-cognate students coming into all our master's courses
  - do recognition of prior learning (RPL) and entry requirement assessment for students coming from non-traditional pathway based on work experience
  - leading course redevelopment (all four units in the course) to link/connect them well and offer more hands-on industry skills and experience to students
  - led a successful Transformation Deakin Design Seeding Grant application ($10K) from Deakin Learning Futures to develop a common platform to use all units in the course and currently leading the project
- *Member,* Deakin University School of IT Learning and Teaching Executive team (2022-now)
  - contributing to shaping up school's L&T strategies and priorities, particularly for large first year units, aligned delivery and active learning units.
  - championing effective teaching and supporting new and early career colleagues in teaching
  - developing a set of units for a major and minor in Database and Data Analysis
- *Member,* Bachelor of Data Science course team (2023-now)
  - contributing to the management of the course and associated units
- *Member,* Master of Applied Artificial Intelligence course team (2023-now)

- contributing to the management of the course and associated units
- *Co-Deputy Director*, Bachelor of IT, Deakin University, School of IT (2020-2021)
  - played instrumental role in the design of new BIT course, particularly in designing majors and minors, establishing a core unit on System Requirement Analysis, integrating WIL in units, and redevelopment of professional practice and placement units.
  - acknowledging my contribution and leadership skills, I was given a course director role in 2022
- *Member*, Course Leadership Team, Master of IT, Deakin University, School of IT (2019)
  - contributed significantly to MIT major course revision in 2019, particularly in working with unit chairs and students to prepare the major course revision report, scaffolding research component across master's degree to encourage students to get into research and HDR studies that led to school redeveloping coursework research in 2020
  - did recognition of prior learning assesment
  - acknowledging my contribution, I was given a Deputy Director of BIT (the largest UG course in the school) the following year.
- *Member*, Marketing & Student Experience Committee, Deakin University, School of IT (2019-2020)
- *Unit Coordinator/Chair*, Deakin University School of IT and Federation University School of Science, Engineering, and IT (2016-now)
  - successfully coordinating/chairing several IT/IS units in UG/PG levels (many of them are large core units with up to 650+ students) ranging from database, programming, machine learning, software engineering to business information systems, project management, professional skills, capstone project, placement, and research thesis.
  - voluntarily redeveloped the undergraduate database unit (SIT103) that had been problematic for the school for several years in terms of students' engagement and satisfaction (it was in the Faculty and DVCE's Office's watchlist every year between 2016-2020) in 2021 and transformed it into an exemplary one. Student engagement and satisfaction in evaluate feedback doubled in high 90s. My effort is recognized with the School and Faculty L&T Awards and nominated to apply for VC Award in 2022.
  - redeveloped and aligned the PG database unit (SIT772) with SIT103 and deliver as aligned units in 2022. It significantly improved students' satisfaction and results of SIT772 students.
  - led redevelopment of PG Capstone project units at Federation University (2017-2018) where ACS has serious concerns in the previous accreditation round about quality/consistency of delivery/assessment across multiple campuses and partner providers. I redeveloped the three associated units and established procedures around collaboration between teaching teams at different locations to ensure consistency. My effort and successes achieved were commended by the school leadership team and ACS panel in the following accreditation round.

Other academic service and leadership

- *Co-organizer*, Annual Simpson's AI Challenge, Deakin University, School of IT (2021-now)
  - organized two very successful competitions with good participations from UG and PG students, successful applied for grants from Bendigo Community Bank for prize money in both years.
- Represented Deakin School of IT at *Geelong Think Tank* (Victorian Government's Initiatives to understand digital capabilities and skills demand/supply in the region) and established relationships with local employers that resulted in multiple internship opportunities for our Geelong campus students (2021).
- Established engagement with an international business (Centauria Corp USA) and not-for profit organization (Nepali Policy Institute) that resulted in four capstone projects (2021)
- Regularly serve on Faculty Academic Integrity Hearing and School HDR Confirmation Panels (2019-now)

7. Awards and Scholarships

As an academic/researcher

2023 Nominated by the Deakin School of IT and Faculty of SEBE for a *Victorian Tall Poppy Award*
2022 *School Research Award for Industry Engagement*, School of IT, Deakin University
2022 *Faculty Teaching and Learning Award*, Faculty of SEBE, Deakin University
2022 Nominated by the Faculty of SEBE, Deakin University for the *David and Valerie Solomon Award* that is awarded to an emerging young researcher/scientist.
2021 *School Research Award for Excellence in Early Career Research Performance,* School of IT,

Deakin University

2021 *School Teaching Award for Excellence in Unit Leadership and Supporting Student Learning,* School of IT, Deakin University

2015 Nominated by students for a *Monash University Faculty of IT Teaching Award*

As a student

2015 *Student travel award* ($2,000) from Asian Information Retrieval Society (AIRS) and Monash Institute of Graduate Research (MIGR) to attend AIRS conference in Brisbane, Australia

2014 *Student travel award* ($3,500) from Alberta Innovates Centre for Machine Learning (AICML) and Monash Institute of Graduate Research (MIGR) to attend IEEE ICDM in Shenzhen, China

2013 *Australian Postgraduate Award (APA)* for PhD at Monash University

2012 *Best Poster Award* at the Faculty of IT higher degrees by research conference, Monash University

2012 *Monash Postgraduate Publication Award (PPA),* Faculty of IT, Monash University

2012 *Research student stipend* for MIT (Research), Monash University, Gippsland

2009 *Research trainee scholarship* by Katholieke University Leuven, Belgium

2007 *Dean's award* for outstanding academic achievement by University of Southern Queensland

2007-08 *Academic scholarships* during MIT (Coursework) study at University of Southern Queensland

2006 *ISACA prize* by Information Systems Audit and Control Association (ISACA) Brisbane Chapter

2001-05 *Outstanding student full tuition fee waiver scholarship* to study BIT

8. Professional Affiliation & Service

- *Fellow of the UK AdvanceHE*, formerly known as Higher Education Academy (HEA) (2021-now)
  - did it through the reflective practice pathway
- *Topic Editor* for the MDPI Applied System Innovation (ASI) journal (2021-now)
- *Machine Learning Expert*, Critical Minerals Consortium led by Monash University (2021-Now)
- *Member,* Australian Responsible Autonomous Agent Cooperative (ARAAC) research group which is a multidisciplinary research team across Deakin, Federation and UNSW universities (2019-Now)
- *Panel of Experts (IT and Higher Education in Engineering/Technology),* Nepal Policy Institute (2021-now)
  - invited as a panelist in a discussion organized by the Nepal's Ministry of Foreign Affairs on "Role of Diaspora Nepalese education experts in improving education system in Nepal" (2021)
- *Track Co-Chair* (Artificial Intelligence and Cognitive Systems) – Arab Computer Society and IEEE International Conference on Computer Systems and Application (AICCSA) (2022)
- *Workshop Co-Chair,* Int. Conf. on Advanced Data Mining and Applications (ADMA) (2021)
- *Grant Reviewer,* Australian Research Council (2023-now)
- *PC Member* - Conferences such as IJCAI, AAAI, ECML/PKDD, PAKDD, ECAI, IJCNN and ICONIP (2019-now)
- *Journal Reviewer* - ACM Transactions on Knowledge Discovery from Data (TKDD), Journal of AI Research (JAIR), IEEE Intelligent Systems, IEEE Transaction on AI (2020-now)
- *Professional Member*, Australian Computer Society (2008-now)
- *Professional Member*, IEEE Computer Society (2014-now)
- *Professional Member*, IEEE Young Professionals (2014-now)
- *Treasurer*, IEEE Computational Intelligence Society (IEEE-CIS) Victoria Chapter (2018-2019)

9. Publications

Peer-reviewed Journal Articles = 22 (19 in Scimago Q1 journals)
Peer-reviewed Conference papers = 22 (14 in CORE A/A* ranked conferences)
Peer-reviewed Book Chapters = 2
Preprint Articles = 5
Google Scholar Citations = 533, h-index = 13 and i10-index = 20 (as of 06 March 2023)
Field-Weighted Citation Impact = 1.58 (last three years=1.96, last five years=1.79)

Refereed Journal Articles

1. Samariya, D., Ma, J., **Aryal, S.** and Zhao, X. (2023). Detection and explanation of anomalies in healthcare data, *Health Information Science and Systems*, (Accepted on 26 February 2023) [Q1]
2. Rasool, Z.*, **Aryal, S.***, Bouadjenek, M. R. & Dazeley, R. (2023). Overcoming Weaknesses of Density Peak Clustering Using a Data-dependent Similarity Measure, *Pattern Recognition*, doi: 10.1016/j.patcog.2022.109287 [Q1, IF: 8.52] (*Contributed equally)
3. Halder, R. K., Uddin, M. N., Uddin, M. A., **Aryal, S.**, Islam, M. A., Hossain, F., Jahan, N., Khraisat, A. & Alazab, A. (2023). A Grid Search-Based Multilayer Dynamic Ensemble System to Identify DNA N4-Methylcytosine Using Deep Learning Approach, *Genes*, 14(3), Art. No. 582, doi: 10.3390/genes14030582
4. Santosh, K. C., Rasmussen, N., Mamun, M. & **Aryal, S.** (2022). A systematic review on cough sound analysis for Covid-19 diagnosis and screening: is my cough sound COVID-19? *PeerJ Computer Science*, 8, doi: 10.7717/peerj-cs.958 [Q1, IF: 2.41]
5. Nguyen, T. T., Abdelrazek, M., Nguyen, D. T., **Aryal, S.**, Nguyen, D. T., Reddy, S., Nguyen, Q. V., Khatami, A., Nguyen, T. T., Hsu, E. B. & Yang, S. (2022). Origin of Novel Coronavirus causing COVID-19: A Computational Biology Study using Artificial Intelligence. *Machine Learning with Applications*, 9, Art. No. 100328. doi: 10.1016/j.mlwa.2022.100328 [Q1, IF: 6.3]
6. Aryal, J., Sitaula, C. & **Aryal, S**. (2022). NDVI Threshold-based Urban Green Space Mapping from Sentinel-2A at the Local Government Area (LGA) level of Victoria, Australia. *Land*, 11 (3), Art. No. 351. doi: 10.3390/land11030351 [Q2, IF: 3.40]
7. Sitaula, C., Shahi, T. B., **Aryal, S**., Marzbanrad, F. (2021). Fusion of multi-scale bag of deep visual words features of chest X-ray images to detect COVID-19 infection. *Scientific Report*, 11, Art. No. 23914. doi: 10.1038/s41598-021-03287-8 [Q1, IF: 5.13]
8. Sitaula, C., **Aryal, S.**, Xiang, Y., Baset, A. & Lu, X. (2021). Content and context features for scene image representation. *Knowledge-Based Systems*, *232*, 1-10. doi: 10.1016/j.knosys.2021.107470 [Q1, IF: 8.04]
9. Song, X., **Aryal, S.**, Ting, K. M., Liu, Z. & He, B. (2021). Spectral-Spatial Anomaly Detection of Hyperspectral Data Based on Improved Isolation Forest. *IEEE Transactions on Geoscience and Remote Sensing*, doi:10.1109/TGRS.2021.3104998 (Published online on 24 Aug 2021) [Q1, IF: 5.6]
10. Sitaula, C., Xiang, Y., **Aryal, S.**, & Lu, X. (2021). Scene image representation by foreground, background, and hybrid features. *Expert Systems with Applications*, *182*, 1-10. doi:10.1016/j.eswa.2021.115285 [Q1, IF: 6.95]
11. Sitaula, C., & **Aryal, S.** (2021). New bag of deep visual words based features to classify chest x-ray images for COVID-19 diagnosis. *Health Information Science and Systems*, *9*(1), 1-12. doi:10.1007/s13755-021-00152-w [Q1]
12. Sitaula, C., Basnet, A., & **Aryal, S.** (2021). Vector representation based on a supervised codebook for Nepali documents classification. *PeerJ Computer Science*, *7*, 1-18. doi:10.7717/peerj-cs.412 [Q1, IF: 1.89]
13. Dazeley, R., Vamplew, P., Foale, C., Young, C., **Aryal, S.**, & Cruz, F. (2021). Levels of explainable artificial intelligence for human-aligned conversational explanations. *Artificial Intelligence*, *299*, 1-29. doi:10.1016/j.artint.2021.103525 [Q1, IF: 9.08]
14. **Aryal, S.**, Santosh, K. C., & Dazeley, R. (2021). usfAD: a robust anomaly detector based on unsupervised stochastic forest. *International Journal of Machine Learning and Cybernetics*, 12(4), 1137-1150 doi:10.1007/s13042-020-01225-0 [Q1, IF: 4.01]
15. Wells, J. R., **Aryal, S.**, & Ting, K. M. (2020). Simple supervised dissimilarity measure: Bolstering iForest-induced similarity with class information without learning. *Knowledge and Information Systems*, *62*(8), 3203-3216. doi:10.1007/s10115-020-01454-3 [Q1, IF: 3.16]
16. Sitaula, C., & **Aryal, S.** (2020). Fusion of whole and part features for the classification of histopathological image of breast tissue. *Health Information Science and Systems*, *8*, 1-12. doi:10.1007/s13755-020-00131-7 [Q1]
17. **Aryal, S.**, Ting, K. M., Washio, T., & Haffari, G. (2020). A comparative study of data-dependent approaches without learning in measuring similarities of data objects. *Data mining and Knowledge Discovery*, *34*, 124-162. doi:10.1007/s10618-019-00660-0 [Q1, IF: 4.42]
18. Sitaula, C., Xiang, Y., Zhang, Y., Lu, X., & **Aryal, S.** (2019). Indoor image representation by high-level semantic features. *IEEE Access*, *7*, 84967-84979. doi:10.1109/ACCESS.2019.2925002 [Q1, IF: 3.37]

19. Ting, K. M., Washio, T., Wells, J. R., & **Aryal, S.** (2017). Defying the gravity of learning curve: a characteristic of nearest neighbour anomaly detectors. *Machine Learning*, *106*(1), 55-91. doi:10.1007/s10994-016-5586-4 [Q1, IF: 3.69]
20. **Aryal, S.**, Ting, K. M., Washio, T., & Haffari, G. (2017). Data-dependent dissimilarity measure: an effective alternative to geometric distance measures. *Knowledge and Information Systems*, *53*(2), 479-506. doi:10.1007/s10115-017-1046-0 [Q1, IF: 3.16]
21. **Aryal, S.**, & Ting, K. M. (2016). A generic ensemble approach to estimate multidimensional likelihood in Bayesian classifier learning. *Computational Intelligence*, *32*(3), 458-479. doi:10.1111/coin.12063 [Q2, IF: 2.33]
22. Ting, K. M., Washio, T., Wells, J. R., Liu, F. T., & **Aryal, S.** (2013). DEMass: a new density estimator for big data. *Knowledge and Information Systems*, *35*(3), 493-524. doi:10.1007/s10115-013-0612-3 [Q1, IF: 3.16]

Refereed Conference Proceedings

23. Malgi, V. V.*, Aryal, S.*, Rasool, Z. and Tay, D. (2023), Data-dependent and scale-invariant kernel for Support Vector Machine classification, *Proceedings of the 27th Pacific-Asia Conference on Knowledge Discovery and Data Mining* [CORE A] (*Contributed equally) (Accepted on 22 February 2023)
24. Samariya, D., Ma, J. and **Aryal, S.** (2022). sGrid++: Revising Simple Grid based Density Estimator for Mining Outlying Aspect. *In WISE 2022: Proceedings of the International Conference on Web Information Systems Engineering* (Accepted on 22 July 2022) [CORE A]
25. Baniya, A. A., Lee, A-K., Eklund, P. W. & **Aryal, S.** (2022). STIFS: Spatio-Temporal Input Frame Selection for Learning-based Video Super-Resolution Models. In *SIGMAP 2022: Proceeding of the International Conference on Signal Processing and Multimedia Applications* (pp. 48-58) doi: 10.5220/0011339900003289
26. **Aryal, S.**, & Wells, J. R., (2021). Ensemble of Local Decision Trees for Anomaly Detection in Mixed Data. In *ECML PKDD 2021: Proceedings of the 2021 European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases* (pp. 1-16). Springer. doi: 10.1007/978-3-030-86486-6_42 [CORE A]
27. **Aryal, S.**, Baniya, A. A., Razzak, I., & Santosh, K. C. (2021). SPAD+: An Improved Probabilistic Anomaly Detector based on One-dimensional Histograms. In *IJCNN 2021: Proceedings of the 2021 International Joint Conference on Neural Networks* (pp. 1-7). Piscataway, N.J.: Institute of Electrical and Electronics Engineers. doi: 10.1109/IJCNN52387.2021.9534162 [CORE A]
28. Sitaula, C., Xiang, Y., Basnet, A., **Aryal, S.**, & Lu, X. (2020). HDF: Hybrid deep features for scene image representation. In *IJCNN 2020: Proceedings of the 2020 International Joint Conference on Neural Networks* (pp. 1-8). Piscataway, N.J.: Institute of Electrical and Electronics Engineers. doi:10.1109/ijcnn48605.2020.9207106 [CORE A]
29. Samariya, D., **Aryal, S.**, Ting, K. M., & Ma, J. (2020). A New Effective and Efficient Measure for Outlying Aspect Mining. In *WISE 2020: Proceedings of the 2020 International Conference on Web Information Systems Engineering* Vol. 12343 (pp. 463-474). Berlin, Germany: Springer. doi:10.1007/978-3-030-62008-0_32 [CORE A]
30. Sitaula, C., Xiang, Y., **Aryal, S.**, & Lu, X. (2019). Unsupervised deep features for privacy image classification. In *PSIVT 2019: Proceedings of the 2019 Pacific-Rim Symposium on Image and video technology* Vol. 11854 (pp. 404-415). Cham, Switzerland: Springer. doi:10.1007/978-3-030-34879-3_31 [CORE B]
31. Sitaula, C., Xiang, Y., Basnet, A., **Aryal, S.**, & Lu, X. (2019). Tag-based semantic features for scene image classification. In *ICONIP 2019: Proceedings of the 26th International Conference on Neural Information Processing of the Asia-Pacific Neural Network Society 2019* Vol. 11955 (pp. 90-102). Cham, Switzerland: Springer. doi:10.1007/978-3-030-36718-3_8 [CORE A]
32. Baniya, A. A., **Aryal, S.**, & Santosh, K. C. (2019). A novel data pre-processing technique robust to units and scales of measurement. In *ICONIP 2019: Proceedings of the 26th International Conference on Neural Information Processing of the Asia-Pacific Neural Network Society 2019* published as a Special Issue of the *Australian Journal of Intelligent Information Processing Systems* Vol. 16 (pp. 1-8). Link: http://ajiips.com.au/papers/V16.3/v16n3.pdf [CORE A]

33. Ting, K. M., **Aryal, S.**, & Washio, T. (2018). Which Outlier Detector Should I use? In *ICDM 2018: Proceedings of the 2018 IEEE International Conference on Data Mining* (pp. 8). Singapore, Singapore: IEEE. doi:10.1109/ICDM.2018.00015 (One-day long tutorial) [CORE A*]
34. Santhanagopalan, M., Chetty, M., Foale, C., **Aryal, S.**, & Klein, B. (2018). Relevance of frequency of heart-rate peaks as indicator of 'biological' stress level. In *ICONIP 2018: Proceedings of the 2018 International Conference on Neural Information Processing* Vol. 11307 (pp. 598-609). Cham, Switzerland: Springer. doi:10.1007/978-3-030-04239-4_54 [CORE A]
35. Santhanagopalan, M., Chetty, M., Foale, C., **Aryal, S.**, & Klein, B. (2018). Modeling neurocognitive reaction time with gamma distribution. In *ACSW '18: Proceedings of the 2018 Australasian Computer Science Week Multiconference* (pp. 1-10). New York, N.Y.: ACM. doi:10.1145/3167918.3167941 [Australasian]
36. Shojanazeri, H., **Aryal, S.**, Teng, S. W., Zhang, D., & Lu, G. (2018). Image clustering using a similarity measure incorporating human perception. In *IVCNZ 2018: Proceedings of the 2018 International Conference on Image and Vision Computing New Zealand* (pp. 1-6). Piscataway, N.J.: IEEE. doi:10.1109/IVCNZ.2018.8634744 [Australasian]
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