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A Study on Artificial Intelligence with Machine Learning and Deep Learning Techniques

C. Venkateswaran, M. Ramachandran, Vimala saravanan, T. Vennila
Management Studies department, Maharishi Markandeshwar (Deemed to be University), Ambala, Haryana. India
REST Labs, Kveripattinam, Krishnagiri, TamilNadu, India.
Email: vimala@restlabs.in

Abstract

Artificial intelligence (AI), the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience. Since the development of the digital computer in the 1940s, it has been demonstrated that computers can be programmed to carry out very complex tasks—as, for example, discovering proofs for mathematical theorems or playing chess—with great proficiency. Still, despite continuing advances in computer processing speed and memory capacity, there are as yet no programs that can match human flexibility over wider domains or in tasks requiring much everyday knowledge. On the other hand, some programs have attained the performance levels of human experts and professionals in performing certain specific tasks, so that artificial intelligence in this limited sense is found in applications as diverse as medical diagnosis, computer search engines, and voice or handwriting recognition. Machine learning is a subset, an application of Artificial Intelligence (AI) that offers the ability to the system to learn and improve from experience without being programmed to that level. Machine Learning uses data to train and find accurate results. Machine learning focuses on the development of a computer program that accesses the data and uses it to learn from themselves. Deep Learning is a subset of Machine Learning where the artificial neural network, the recurrent neural network comes in relation. The algorithms are created exactly just like machine learning but it consists of many more levels of algorithms. All these networks of the algorithm are together called as the artificial neural network. In much simpler terms, it replicates just like the human brain as all the neural networks are connected in the brain, exactly is the concept of deep learning. It solves all the complex problems with the help of algorithms and its process.

Introduction

The ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent organisms. Object discovery, generalization, or learning from past experience. Routine practical protocols. [2] The first professional organizations were formed in the 1970s and then expanded in the 1980s. [3] True successful forms of artificial intelligence (AI) software include expert organizations. The hypothetical machine and the knowledge base. Knowledge base refers to facts and rules. The hypothetical machine uses rules for known facts to discover new facts. Hypothesis machines also include interpretation and debugging capabilities. Meta-ethics is a branch of philosophical ethics that asks how we understand and understand what is right and what is wrong. [15] "Should I eat this particular chocolate cake?" A protocol question related to such a specific practical situation cannot be a meta-protocol question (rather, it is an application protocol question). A meta-protocol question is concise and relates to several specific practical questions. For example, "Is it ever possible to gain safe knowledge of what's right and what's wrong?" Is the question of the Meta protocol? For making predictions or conclusions that are not explicitly planned. In-depth a machine learning technique that teaches computers what looks natural to humans: Learn by example. Deep learning is a key technology behind driverless cars that can help identify a stop sign or distinguish a pedestrian from a lamppost. This is important for voice control has been gaining more and more attention lately and for good reason. This achieves previously unattainable results.

Artificial intelligence

The interpretation and interpretation of responsible if something goes wrong? Can you explain why things go wrong? If things work well, do we know why and how to improve them? Numerous articles have suggested various measures and structures to capture interpretation, and descriptive Artificial Intelligence (XAI) topics have become a hotspot in the ML research community. Popular DL libraries such as Pytorch Captor and tensor flow tf-explain have begun to add their own XAI libraries. Furthermore, the multiplication of descriptive evaluation criteria (such as reliability, reason, and applicability) helps the ML community track how algorithms are used and how their application can be improved, and provides guidance on improvements. In particular, visualization has been shown to help researchers identify erroneous causes of classification problems that many previous researchers have missed [37]. Laboratories are ready to play a key role in diverse groups, we

have provided definitions, interpretations, and outlines laboratories in providing accurate criteria, interpretation, and results for AI / ML applications. To promote AI / ML training, we promote a balanced approach to using clinical trial data in conjunction with real-world data. The selected approach and technique should be adapted to the available. Because laboratories need to be adequately informed and educated about these options so that they can effectively [40]. Research in the areas of driving behavior forecasting continues to grow precise solutions emerges with excellence in the automotive, naval and road infrastructure industries. Knowledge of driver behavior research is divided in different fields and industries. In order to improve the understanding of the implementation and application of driver behavior analysis, this review classifies driver behavior application areas into primary groups. Mechanisms for investigating the proposed issue of personal driver identification [46]. In addition to image classification, AI has a significant interest in the ability to detect objects and play games, enhancing the generate mapping from source inputs such as the intensity disease crafted features, while untrained in-depth learning can learn this aspect directly from the data. Several research groups are working on using convolution minimal CT images.

Artificial Neural Network

Synthetic neural network (ANN) models to simulate the data used to build the ANN models include the results of a series of in-situ bill load tests and cone penetration testing (CPT). The predictions of the ANN models were consistent with the results of the test data and the predictions of the number of load-transfer methods currently accepted. The results indicated that ANN models performed better and could accurately predict file-settlement behavior [59]. The absence of a review paper reviewing and evaluating the applications of AI methods in fracture dynamics led to the joint article. To solve these problems, we analyzed the literature based on a classification of five previous methods and techniques of AI: The Bayesian Network (BN), the artificial neural network (ANN), the genetic algorithms (GA), the ambiguous logic (FL), and case-based reasoning. (CBR). In this study, the main concepts and methods of these methods are highlighted. Furthermore, it explains how they are used in sub-domains of breakdown dynamics: breakdown and breakdown parameters. This contribution can provide some insights into the future perspectives of research in this field [88]. As mentioned in the previous section, proof-of-concept studies have been performed where serum samples from patients of known infections were used to make predictive models for future diagnoses. This same type of approach can be applied to medical disorders. Here, we highlight a few other proof-of concept studies that have focused on identifying or classifying aspects of medical disorders. Screening of diabetes mellitus typically requires that the patient provides a blood sample, which is an invasive approach. In this regard, screening using a non-invasive approach that yields rapid results would be ideal. One idea was to use Raman spectra acquired at different sites on the body (earlobe, inner arm, thumbnail, and median cubical vein) instead of blood samples [87]. Using spectra acquired from eleven patients with type 2 diabetes, and eleven patients without diabetes, artificial neural networks were developed. Although the authors report a highest classification accuracy of 96% for spectra acquired at the inner arm, a considerably greater number of patients is vital to determine how effective this approach would be in a clinical setting. In the case of kidney stones, it is not about determining if the patient has them, but instead, to determine what the composition is, and thus, find its origin **[100].** Artificial intelligence techniques are unique in that they acquire, depict, retain, use acquired knowledge, adapt to new problems, and deal with variations. Therefore, it is always essential to consider which technique is best for different predictions. Events of the well drilling fluid project. To reduce the size of a large number of datasets, the must be carefully selected, which increases the predictive efficiency of the samples. In addition, the command gives the encouraging hybrid systems have been certain limitations other AI techniques [48].

Ethics

The OSTP report specifically states: "Ethics for AI practitioners and students is an essential part of the training solution. May help to understand their responsibilities, but should take technical precautionary measures when an organization is being built and tested and increase protocol training with the technical ability to implement good intentions, which should be complementary to the law and protocol codes for robotics researchers and designers, codes for research protocol groups (users) and designers (users) Rights and obligations) [84] Presence, do sellers need? First, how to better configure a sales system that includes both AI bots and human vendors. Second, how should the company manage the transaction between AIs focusing on the expressed needs of the clients and can the vendors manage the issues relatively well such as customer maid? Finally, vendors can train / manage AI-related customer concerns, especially capabilities [89]. Most notably, the key word "ethics" is nowhere to be found in the film, indicating that AI does not focus on health and medicine. In addition, in our database, there are only 204 documents (0.7%) related to protocols when looking for "protocols" in both the main field and summaries. The first paper was published in 1994 "Protocols in the Management of Persons with Acute Neuromuscular Disorders". The use health system and improves medicine. However, improper use of AI technology can be dangerous for patients and physicians. Therefore, we need an ethical standard that applies to all actors, not only in health [107]. The argument put forward rejecting the work done by industry or in line with current protocol structures. On the contrary, we can learn a lot from this process, but only if we carefully evaluate its purposes, impact and process. It is important to critique in terms of the fundamental objectives of AI governance solutions and the (unexpected) co-cultural implications, especially the legalization of private sector-led regulatory regulations. Similarly, we need to be aware of concerns that are such as justice, accountability and transparency. What is not discussed in focusing on these issues? Do we assume that issues surrounding will be automatically captured an opportunity for agenda-setting organizations? It is important to ask these difficult questions because these ideas are increasingly leading to regulatory initiatives around the world [36].

Expert System

ES acquires professional knowledge coded as facts, rules, horistics and practices. KBS consists of three components, the database, the knowledge base and the inference machine. The general structure of the Knowledge Based Expert Organization (KB-ES) is shown in Figure 9. The database contains information based on fact or horistics based on the user interest of the particular problem domain. The knowledge base consists of domain knowledge expressed in production rules, laws, materials, cases, etc. The hypothetical machine for making assumptions and provides advice to experts [113]. KBS was the most common word in the AI system at IJIM in the 2000s, and is considered by many business / management educators and practitioners to be the most appropriate word to use. Pimba et al. (2016, p. 857) put it this way: "An organization that represents knowledge is commonly referred to as a knowledge-based organization." Interestingly, this seems to be true only in business and management. In other fields, especially science and engineering, the expert organization is a more general term. The Web of Science has listed more than 10,000 publications since 2000, including the term expert organization (s), but less than 2000 publications, including the knowledge organization (s) [57]. Hunt, a professional organization according to 1986. Hypothetical require significant human expertise to solve. Knowledge base and hypothetical practices should include a model of expertise of the best trainers in the field. So the term expert organization is often used in the context of a consulting organization, for example. In selecting the type of grinding wheel. Detection of process speeds and appropriate values of associations or vibration type. Although this idealized knowledge-based grinding system is not currently available, several features have been demonstrated [60]. The production method of independent declaration rules has the advantage of approach management: facts or rules can be added or removed independently from other knowledge base - but the harm data and knowledge base that require additional control rules to determine how hypothetical rules should be used in the input. This is the format used by most of the existing expert organizations. The problem of which hypothetical rule to use next can be approached by knowledge-driven holistic 23 and series statistical conclusion theory [63].

Machine learning

These systems also play a role in supporting, complementing, and data-driven inputs in a wide variety of multidisciplinary Surgical risk analysis and mitigation protocols. The prognostic risk information they provide should be provided to relevant areas of the surgical decision-making process (E.g., miscellaneous conference discussions and / or patient counseling), other relevant information (E.g., test results and ratings from other experts) are complex. In the context of a comprehensive patient review protocol designed for spinal surgery, a map of the potential workflow process integration point for ML final support tools has been published by the Seattle Spine Group [24]. A similar procedure and instrument integration point for neurosurgery teams is likely to provide patient safety benefits [109]. Radiology, as a special feature, had to face rapid technological change just like any other field in medicine. Radiologists have greatly benefited from working with digital systems, but with the potential for adoption of AI in radiology, there are concerns about machines taking jobs from humans in a way that reflects a potential, cultural barrier. Obermeyr and Emanuel [17], who write in the New England Journal of Medicine, have already predicted this. "machine learning will replace most of the work of radiologists and anatomists" and that "the accuracy of the machine will soon exceed that of humans". Chuckle and Emanuel [18], writing in JACR, "Machine learning will become a powerful force in the next 5-10 years, and radiation may end with a prosperous specialization" [112]. The domain studied under each Earth Hazard is different from one another, and in some ways more explored compared to others. For example, landslide impact mapping has been relatively extensively studied compared to other aspects such as risk and hazard. The application of traditional machine learning has been very useful in understanding many of the characteristics of earthquake studies. However, analyzing the complexity associated with an increase in sample size and diversity, which prevents the use of shallow learning methods due to their limited cell range. In almost all different specific domains, the use of hybrid models predates the use of the single algorithm [38]. A team in Low levels of in vitro-infected carriers of the Ebola virus in 2014 through ML and AI-based pharmacophore computational analysis. The study proposed a combination of discovering, In SARS-CoV-2 it is proposed to integrate the selection of adjunctive drugs for study. Researchers point to the successful discovery and experience of Ebola of the Zhukov virus, and hope that the same pattern could be repeated for Kovit-19 and future drug findings for viral infections [77]. In AI, Building Block 4 is primarily concerned with three key processes of intellectual behavior: Problem solving, rational and machine learning and machine learning that upgrades machines using the previous two processes. AI is driven by rapid improvements in emerging computational performance and machine learning techniques (illustrated in Building Volume 4), which can perform computations on a wide variety of structured data, often in real time [98].

Deep Learning

Also known as Deep structured learning, deep learning (DL) or step learning, which refers to a class of ML techniques, It uses multiple between data. These structures, made up of many layers, are commonly referred to as deep neural networks (DNNs) or sometimes layered neural networks. Depth of differentiation between early single-concealed-layer synthetic on which the for "deep" learning. Therefore, "deep" is a technical term referring to more than one hidden layer. Other standard neural network structures, DNNs are efficient global approximations. But they have additional properties because they are based on learning the features of many levels or representations of data. They use a layer of non-linear processing units in several layers to extract the feature. Each successive layer uses the output of the previous layer as input. To create a hierarchical representation, higher level features are derived from lower level features. The hierarchy of these features is

called deep architecture [49]. The training process of an in-depth learning model is aimed at improving the kernels, thus minimizing the distinction. In pathological is the silicon formation of new exercise images by changes in the color and shape of existing images. Deep learning-based division models, in our experience, have shown greater stability in immune for chemical (IHC) films and H&E films compared to traditional image processing methods. It is noteworthy that multi-vertebrate networks of matching pathological images captured under different resolutions [44]. Furthermore, choosing the right lymphocytes and necrosis are better known in different sizes [68]. The proposed model would enable radiologists to improve the accuracy of their diagnosis and the effectiveness of managing Covit-19 patients. COVID-19 used a Sinhala and ratio AI-based approach to predict the survival of isolated individuals. A model based on multi-auto encoders was developed and tested in 5165 Covid-19 cases, which were validated in 1533 isolated of the outbreak, suggesting that in-depth learning may be useful in providing an outbreak size view. The integrated model was shown to be 99% accurate. The risk-based approach, which can predict the death of Kovit-19 patients over 12 days, can be predicted with more than 90% accuracy in all partners [72]. The aforementioned medical issues have slowed down the American imaging compared to other methods. Access Date 10 May 2021) (Table 1). In-depth learning requires the presence of adequate databases on natural advanced controls. To facilitate the clinical processing of AI devices, it is essential evaluating input data and developing effective data structure and algorithms. Another concern is the AI black box problem, in which the decision-making process of complex synaptic waiting on hidden layers of CNNs is not clear. In order to gain informed approval for developing AI-based US diagnostic technologies valid in clinical practice [103], patients must understand and explain the reason for the diagnosis.

Conclusion

Another emerging technique is artificial intelligence (AI). In addition to image classification, AI has a significant interest in the ability to detect objects and play games, enhancing the can generate mapping from source inputs such as the intensity of individual pixels to specific outputs such as disease classification. Reconstruction, in which convulsive neural networks are trained with low-level CT images to reconstruct conventional-dose CT images. The absence of a review paper reviewing and evaluating the applications of AI methods in fracture dynamics led to the joint preparation of the present research paper. To solve these problems, we analyzed the literature based on a classification of the previous five methods and techniques of AI: Bayesian network (BN), synthetic neural network (ANN), genetic algorithms (GA), ambiguous logic (FL), and case-based causation (CBR). In this study, the main concepts and methods of these methods are highlighted. Furthermore, it explains how they are used in subdomains of fracture dynamics: damage and failure detection and detection, and mechanical breakdown and breakdown parameters. This contribution can provide some insight into the future perspectives of research in this field. Radiology, as a special feature, had to face rapid technological change just like any other field in medicine. Radiologists have greatly benefited there are concerns about machines getting jobs from humans in order to reflect the potential, even potential, cultural barrier to accepting AI in radiology. Provoking [17], have already predicted that "machine learning will replace most of the work of radiologists and anatomists" and that "the accuracy of the machine will soon exceed that of humans". Chuckie & Emanuel, [18] writes radiology will end with a prosperous specialization. Help.COVID-19 used a Sinhala and ratio auto encoders which were tested on 1533 isolated patients. And suggests that models driven by in-depth learning may be effective in providing epidemic level vision.

Reference

1. Tjoa, Erico, and Cuntai Guan. "A survey on explainable artificial intelligence (xai): Toward medical xai." IEEE Transactions on Neural Networks and Learning Systems (2020).
2. Rashidi, Hooman H., Nam K. Tran, Elham Vali Betts, Lydia P. Howell, and Ralph Green. "Artificial intelligence and machine learning in pathology: the present landscape of supervised methods." Academic pathology 6 (2019): 2374289519873088.
3. Meiring, Gys Albertus Marthinus, and HermanusCarelMyburgh. "A review of intelligent driving style analysis systems and related artificial intelligence algorithms." Sensors 15, no. 12 (2015): 30653-30682.
4. Willemink, Martin J., and Peter B. Noël. "The evolution of image reconstruction for CT—from filtered back projection to artificial intelligence." European radiology 29, no. 5 (2019): 2185-2195.
5. Shahin, Mohamed A. "State-of-the-art review of some artificial intelligence applications in pile foundations." Geoscience Frontiers 7, no. 1 (2016): 33-44.
6. Nasiri, Sara, Mohammad Reza Khosravani, and Kerstin Weinberg. "Fracture mechanics and mechanical fault detection by artificial intelligence methods: A review." Engineering Failure Analysis 81 (2017): 270-293.
7. Lussier, Félix, Vincent Thibault, Benjamin Charron, Gregory Q. Wallace, and Jean-Francois Masson. "Deep learning and artificial intelligence methods for Raman and surface-enhanced Raman scattering." *TrAC Trends in Analytical Chemistry* 124 (2020): 115796.
8. Agwu, Okorie E., Julius U. Akpabio, Sunday B. Alabi, and AdewaleDosunmu. "Artificial intelligence techniques and their applications in drilling fluid engineering: A review." *Journal of Petroleum Science and Engineering* 167 (2018): 300-315.

9. Cath, Corinne, Sandra Wachter, Brent Mittelstadt, Mariarosaria Taddeo, and Luciano Floridi. "Artificial intelligence and the 'good society': the US, EU, and UK approach." Science and engineering ethics 24, no. 2 (2018): 505-528.
10. Davenport, Thomas, AbhijitGuha, Dhruv Grewal, and TimnaBressgott. "How artificial intelligence will change the future of marketing." *Journal of the Academy of Marketing Science* 48, no. 1 (2020): 24-42.
11. Tran, Bach Xuan, Giang Thu Vu, Giang Hai Ha, Quan-Hoang Vuong, Manh-Tung Ho, Thu-TrangVuong, Viet-Phuong La et al. "Global evolution of research in artificial intelligence in health and medicine: a bibliometric study." *Journal of clinical medicine* 8, no. 3 (2019): 360.
12. Cath, Corinne. "Governing artificial intelligence: ethical, legal and technical opportunities and challenges." Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences 376, no. 2133 (2018): 20180080.
13. Kumar, SP Leo. "State of the art-intense review on artificial intelligence systems application in process planning and manufacturing." Engineering Applications of Artificial Intelligence 65 (2017): 294-329.
14. Duan, Yanqing, John S. Edwards, and Yogesh K. Dwivedi. "Artificial intelligence for decision making in the era of Big Data–evolution, challenges and research agenda." International Journal of Information Management 48 (2019): 63-71.
15. Rowe, W. Brian, Li Yan, I. Inasaki, and S. Malkin. "Applications of artificial intelligence in grinding." CIRP annals 43, no. 2 (1994): 521-531.
16. Phelps, R. I. "Artificial intelligence—An overview of similarities with OR." Journal of the Operational Research Society 37, no. 1 (1986): 13-20.
17. Buchlak, Quinlan D., NazaninEsmaili, Jean-Christophe Leveque, Farrokh Farrokhi, Christine Bennett, Massimo Piccardi, and Rajiv K. Sethi. "Machine learning applications to clinical decision support in neurosurgery: an artificial intelligence augmented systematic review." Neurosurgical review 43, no. 5 (2020): 1235-1253.
18. Thrall, James H., Xiang Li, Quanzheng Li, Cinthia Cruz, Synho Do, Keith Dreyer, and James Brink. "Artificial intelligence and machine learning in radiology: opportunities, challenges, pitfalls, and criteria for success." Journal of the American College of Radiology 15, no. 3 (2018): 504-508.
19. Dikshit, Abhirup, Biswajeet Pradhan, and Abdullah M. Alamri. "Pathways and challenges of the application of artificial intelligence to geohazards modelling." Gondwana Research 100 (2021): 290-301.
20. Lalmuanawma, Samuel, Jamal Hussain, and LalrinfelaChhakchhuak. "Applications of machine learning and artificial intelligence for Covid-19 (SARS-CoV-2) pandemic: A review." Chaos, Solitons & Fractals 139 (2020): 110059.
21. Paschen, Jeannette, Jan Kietzmann, and Tim Christian Kietzmann. "Artificial intelligence (AI) and its implications for market knowledge in B2B marketing." Journal of Business & Industrial Marketing (2019).
22. Zhavoronkov, Alex, PolinaMamoshina, Quentin Vanhaelen, Morten Scheibye-Knudsen, Alexey Moskalev, and Alex Aliper. "Artificial intelligence for aging and longevity research: Recent advances and perspectives." Ageing research reviews 49 (2019): 49-66.
23. Wang, Shidan, Donghan M. Yang, RuichenRong, Xiaowei Zhan, Junya Fujimoto, Hongyu Liu, John Minna, Ignacio Ivan Wistuba, Yang Xie, and Guanghua Xiao. "Artificial intelligence in lung cancer pathology image analysis." Cancers 11, no. 11 (2019): 1673.
24. Bouchareb, Yassine, PegahMoradiKhaniabadi, Faiza Al Kindi, Humoud Al Dhuhli, Isaac Shiri, Habib Zaidi, and Arman Rahmim. "Artificial intelligence-driven assessment of radiological images for COVID-19." Computers in biology and medicine 136 (2021): 104665.
25. Komatsu, Masaaki, Akira Sakai, Ai Dozen, Kanto Shozu, SuguruYasutomi, HidenoriMachino, Ken Asada, Syuzo Kaneko, and Ryuji Hamamoto. "Towards clinical application of artificial intelligence in ultrasound imaging." *Biomedicines* 9, no. 7 (2021): 720.
26. GaddeMehar Chaitanya, M.P.Jenarthanan, C. Sathiyaraj, "A Review on Glass fibre Reinforced Composites with Different Matrix", REST Journal on Emerging trends in Modelling and Manufacturing, 7(1), (2021):18-24.
27. R. Kurinjimalar, S. Vimala, M. Silambarasan, S. Chinnasami. "A Review on Coir fibre Reinforced Composites with Different Matrix", REST Journal on Emerging trends in Modelling and Manufacturing, 7(2), (2021):25-32.
28. AmolLokhande, C. Venkateswaran, M. Ramachandran, C. Vidhya, R. Kurinjimalar. " A Study on Various Implications on Reusing in Manufacturing", REST Journal on Emerging trends in Modelling and Manufacturing, 7(2), (2021): 63-69.
29. AmolLokhande, C. Venkateswaran, M. Ramachandran, S. Chinnasami, T. Vennila."A Review on Various Implications on Re engineering in Manufacturing", REST Journal on Emerging trends in Modelling and Manufacturing, 7(3), 2021:70-75.
30. P. K. Chidambaram, AmolLokhande, M. Ramachandran, VimalaSaravanan, VidhyaPrasanth, "A Review on Biodiesel Properties and Fatty acid composites", REST Journal on Emerging trends in Modelling and Manufacturing, 7(3), 2021:87-93.

31. P.K.Chidambaram, AmolLokhande, M. Ramachandran, M. Nathiya, G. Mathivanan, " A study on Carbon Fiber Based Polymer Rein Force composites", REST Journal on Emerging trends in Modelling and Manufacturing, 7(3), (2021): 94-100.
32. KurinjimalarRamu, M. Ramachandran, M. Nathiya, M. Manjula "Green Supply Chain Management; with Dematel MCDM Analysis" Recent trends in Management and Commerce, 2(3), (2022): 8-15.
33. AmolLokhande; C. Venkateswaran, M. Ramachandran, C. Sathiyaraj, K. Nathiya, "Recycling Process Impact in Current Scenario Manufacturing A Study", Recent trends in Management and Commerce, 2(1), (2021):20-25.
34. VimalaSaravanan, M. Ramachandran, T. Vennila, G. Mathivanan "A Study on Multi-Objective Optimization on the basis of Ratio Analysis", Recent trends in Management and Commerce, 2(3), (2022):16-22
35. SoniyaSriram, M. Ramachandran, SathiyarajChinnasamy, G. Mathivanan "A Review on Multi-Criteria Decision-Making and Its Application", REST Journal on Emerging trends in Modelling and Manufacturing, 7(4), (2022):101-107.
36. S. Chinnasami, M. Ramachandran, P. Vidhya, M. Gowri "Study of Executive Director for Administrative Services on Moyamoya Disease and Energy application" REST Journal on Emerging trends in Modelling and Manufacturing, 7(4), (2022):116-124.
37. SathiyarajChinnasamy, M. Ramachandran, KurinjimalarRamu, P. Anusuya "Study on Fuzzy ELECTRE Method with Various Methodologies" REST Journal on Emerging trends in Modelling and Manufacturing, 7(4), (2022):108-115.
38. Chinnasami Sivaji, M. Ramachandran, KurinjimalarRamu, SoniyaSriram, “A Review on Weight Process Method and its Classification” Data Analytics and Artificial Intelligence, 1(1), (2021): 1-8.
39. M. Amudha, M. Ramachandran, VimalaSaravanan, P. Anusuya, R. Gayathri, “A Study on TOPSIS MCDM Technies and its Application” Data Analytics and Artificial Intelligence, 1(1), (2021):9-14.
40. Vikrant Sharma, M. Ramachandran, SathiyarajChinnasamy, VimalaSaravanan, “A Review on Structural Equation Modeling and Its Classification” REST Journal on Emerging Trends in Modelling and Manufacturing” 7(4), (2021):135-142.
41. Venkateswaran, Dr C. "Family Responsibilities Make a Barrier in the Career of Female Faculty." Mrs. Deepa Sharma, Dr. C. Venkateswaran." Family Responsibilities Make a Barrier in the Career of Female Faculty". International Journal of Computer Engineering In Research Trends (IJCERT), ISSN (2020): 2349-7084.
42. Sharma, Deepa, and DR C. VENKATESWARAN. "Discrimination Face Female Faculty During the Recruitment & Selection and Training Time in The Academic Sector." Journal of Contemporary Issues in Business and Government 27, no. 3 (2021): 1104-1108.
43. Kaur, Mandeep, and Dr C. Venkateswaran. "To Study the Work Life Balance among Working Women, Post Maternity in Banking Sector." International Journal of Management (IJM) 11, no. 2 (2020).