



SCHOLARLY PUBLICATIONS School of Computer Engineering KIIT Deemed to be University

Journal Name: Journal of Retailing and Consumer Services

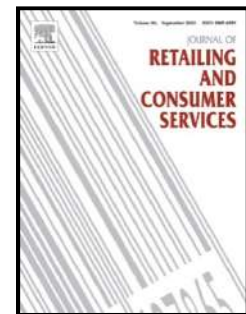
IF: 11

Title: Factors influencing recommendations for women's clothing satisfaction: A latent dirichlet allocation approach using online reviews

Author: Shashank, S; Behera, RK

Details: Volume 81, November 2024, Article number 104011

Abstract: The rapid growth of e-commerce has transformed the way female customers shop for clothing, with an endless number of options available at their fingertips. Online reviews and product suggestions are quite important in this situation for influencing the buying decisions of women. To improve their satisfaction and optimize product offerings, e-commerce businesses need to understand the factors that influence product suggestions for business benefits. Therefore, this study investigates the factors that influence product recommendations for women's e-commerce clothing satisfaction using online reviews. The dataset consists of a varied selection of women's reviews that cover a range of clothing categories and the associated sentiments. To extract and analyze the reviews, this study used Latent Dirichlet Allocation (LDA) and natural language processing (NLP) techniques, including stemming, lemmatization, tokenization, and topic modeling. The results indicate remarkable trends. Product qualities, consumers' pleasure, and the overall purchasing experience are identified as critical factors that greatly affect product recommendations. Furthermore, the effect of various other factors was investigated on the chance of receiving positive recommendations, such as clothing categories and review lengths.



URL: <https://www.sciencedirect.com/science/article/pii/S0969698924003072?via%3Dihub>





SCHOLARLY PUBLICATIONS School of Computer Engineering KIIT Deemed to be University

Journal Name: Technology in Society

IF: 10.1

Title: Drivers of metaverse adoption for enhancing marketing capabilities of retail SMEs

Author: Rehman A.; Behera R.K.; Islam M.S.; Elahi Y.A.; Abbasi F.A.; Imtiaz A.

Details: Volume 79, December 2024, Article Number 102704

Abstract: Small and medium-sized enterprises (SMEs) rely on a thriving distribution network and digital technologies, including the metaverse, to remain competitive. The retail industry is perceived as a portfolio-based and granular business. Hence, retail SMEs can be a key source of innovation and a major source of growth that need technical flexibility to react quickly to changing customer needs. Therefore, grounded in the TOE framework, this study is undertaken to explore the drivers of metaverse adoption for enhancing the marketing capabilities of retail SMEs. Online surveys were used to gather primary data from 300 marketing practitioners employed in retail SMEs. Subsequently, the data were analysed using quantitative research methodology. The finding reveals that the metaverse is gaining attention from retail SMEs due to its technological, organisational, and environmental drivers, as well as its ability to provide immersive experiences to customers. Thereafter, metaverse adoption enhances the marketing capabilities of SMEs with new sales channels, tailored marketing, and increased customer reach with an understanding of the marketplace focused on customer relations, market research, and cross-management capabilities.



URL: <https://www.sciencedirect.com/science/article/pii/S0160791X24002525?via%3Dihub>





SCHOLARLY PUBLICATIONS

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Journal Name: Journal of Cleaner Production

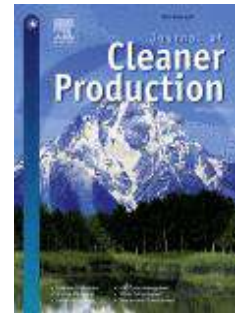
IF: 9.8

Title: Intelligent machines as information and communication technology and their influence on sustainable marketing practices for beneficial impact on business performance: A conceptual framework

Author: Behera R.K.; Rehman A.; Islam M.S.; Abbasi F.A.; Imtiaz A.

Details: Volume 475, October 2024

Abstract: Intelligent machines are the machines or devices that make use of artificial intelligence and robotics technologies. It has the ability to accomplish a specific task in the presence of uncertainty and variability in its operating environment. Certainly, it can be used to support information and communication technology to streamline the creation, collection, processing, transmission, and storage of information for sustainable marketing practices. The flawless application of sustainable marketing practices results in beneficial impacts on business performance. In fact, the issue of unsustainable marketing practices can be effectively managed by intelligent machines. Therefore, this study is undertaken to uncover how intelligent machines can influence sustainable marketing practices for beneficial impacts on retailers' business performance by proposing a unique conceptual framework. The theoretical contributions discuss two techno-sustainable marketing applications. First, intelligent machines improve incremental innovation. This allows retailers to balance technology risk with sustainable marketing and lower the cost of innovations. Second, intelligent machines increase business efficiency by automating sustainable marketing practices. This allows retailers to efficiently manage the inventory, improve fulfilment efficiency, and optimise stock levels. The managerial implications discuss two goals of sustainable marketing practices. First, it can attract sustainability-minded customers who support the retail business for their own well-being. Second, it builds a strong sustainable brand reputation that can lower the price sensitivity.



URL: <https://www.sciencedirect.com/science/article/abs/pii/S0959652624031251?via%3Dihub>





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Journal Name: IEEE Transactions on Circuits and Systems for Video Technology

IF: 8.3

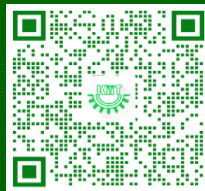
Title: ReFLIP-VAD: Towards Weakly Supervised Video Anomaly Detection via Vision-Language Model

Author: Dev P.P., Hazari R., Das P.

Details: October 2024

Abstract: The vision-language model has recently achieved notable success in image-related tasks, showcasing its ability to learn deep and meaningful visual representations. Applying this robust model to video analysis for detecting anomalies poses a significant challenge. This paper introduces Reparameterized Fine-grained Language Image Pretraining-Video Anomaly Detection (ReFLIP-VAD), a novel approach designed to leverage vision-language capabilities for video anomaly detection. ReFLIP-VAD employs a prompt encoder to generate reparameterized learnable prompt templates, enhancing interpretability and understanding of anomaly-specific semantics. The framework adopts a dual-block architecture: a classification block that uses visual features for binary classification and a video-text alignment block that integrates textual and visual features for precise language-vision alignment. This proposed approach is further strengthened by the Glimpse-Emphasize network that effectively captures both global and local temporal dependencies across time and the MIL-Align mechanism that selects the most representative video frames for each label, representing the entire video. ReFLIP-VAD has demonstrated superior performance on two large-scale benchmark datasets achieving an Average Precision (AP) of 86.29% on XD-Violence and an Area Under the Curve (AUC) of 89.14% on UCF-Crime, significantly surpassing existing state-of-the-art methods.

URL: <https://ieeexplore.ieee.org/document/10706094>





SCHOLARLY PUBLICATIONS

School of Computer Engineering

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Journal Name: IEEE Internet of Things Journal

IF: 8.2

Title: Optimization of End-to-End AoI in Edge-Enabled Vehicular Fog Systems: A Dueling-DQN Approach

Author: Tadele S.B., Kar B., Wakgra F.G., Khan A.U.

Details: October 2024

Abstract: In real-time status update services for the Internet of Things (IoT), the timely dissemination of information requiring timely updates is crucial to maintaining its relevance. Failing to keep up with these updates results in outdated information. The age of information (AoI) serves as a metric to quantify the freshness of information. The Existing works to optimize AoI primarily focus on the transmission time from the information source to the monitor, neglecting the transmission time from the monitor to the destination. This oversight significantly impacts information freshness and subsequently affects decision-making accuracy. To address this gap, we designed an edge-enabled vehicular fog system to lighten the computational burden on IoT devices. We examined how information transmission and request-response times influence end-to-end AoI. As a solution, we proposed Dueling-Deep Queue Network (dueling-DQN), a deep reinforcement learning (DRL)-based algorithm, and compared its performance with DQN policy and analytical results. Our simulation results demonstrate that the proposed dueling-DQN algorithm outperforms both DQN and analytical methods, highlighting its effectiveness in improving real-time system information freshness. Considering the complete end-to-end transmission process, our optimization approach can improve decision-making performance and overall system efficiency.

URL: <https://ieeexplore.ieee.org/document/10706094>





SCHOLARLY PUBLICATIONS School of Computer Engineering KIIT Deemed to be University

Journal Name: Journal of Network and Computer Applications

IF: 7.7

Title: Skin lesion classification using modified deep and multi-directional invariant handcrafted features

Author: Pradhan J.; Singh A.; Kumar A.; Khan M.K.

Details: Volume 231, November 2024, Article number 103949

Abstract: Skin lesions encompass various skin conditions, including cancerous growths resulting from uncontrolled proliferation of skin cells. Globally, this disease affects a significant portion of the population, with millions of fatalities recorded. Over the past three decades, there has been a concerning escalation in diagnosed cases of skin cancer. Early detection is crucial for effective treatment, as late diagnosis significantly heightens mortality risk. Existing research often focuses on either handcrafted or deep features, neglecting the diverse textural and structural properties inherent in skin lesion images. Additionally, reliance on a single optimizer in CNN-based schemes poses efficiency challenges. To tackle these issues, this paper presents two novel approaches for classifying skin lesions in dermoscopic images to assess cancer severity. The first approach enhances classification accuracy by leveraging a modified VGG-16 network and employing both RMSProp and Adam optimizers. The second approach introduces a Hybrid CNN Model, integrating deep features from the modified VGG-16 network with handcrafted color and multi-directional texture features. Color features are extracted using a non-uniform cumulative probability-based histogram method, while texture features are derived from a 45° rotated complex wavelet filter-based dual-tree complex wavelet transform. The amalgamated features facilitate accurate prediction of skin lesion classes. Evaluation on ISIC 2017 skin cancer classification challenge images demonstrates significant performance enhancements over existing techniques.



URL: <https://www.sciencedirect.com/science/article/pii/S1084804524001267?via%3Dihub>





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Journal Name: Decision Support Systems

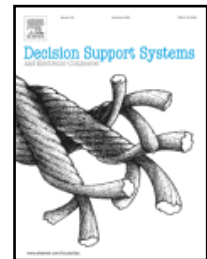
IF: 6.7

Title: Responsible metaverse: Ethical metaverse principles for guiding decision-making and maintaining complex relationships for businesses in 3D virtual spaces

Author: Behera R.K.; Janssen M.; Rana N.P.; Bala P.K.; Chakraborty D.

Details: Volume 187, December 2024

Abstract: A metaverse is a three-dimensional virtual space (3D VS) where businesses and individuals worldwide can engage, interact, communicate, transact, and exchange information in real-time through an immersive and collaborative platform. These interactions can create complex relationships influenced by the decision-making processes of businesses. Such complexity can lead to challenges in maintaining relationships, ensuring exclusiveness, preventing misuse, and addressing other ethical issues. Therefore, this study aims to identify ethical principles within the metaverse to guide decision-making and maintain complex relationships between users and businesses. Both qualitative and quantitative data were collected for analysis, and simple random sampling was employed for primary data collection. The empirical analysis was conducted using a mixed-method approach. The study identified four ethical principles that guide complex relationships within the metaverse: business benefit evaluation, fairness, explainability, and reliability principles. These principles positively influence decision-making, which, in turn, positively affects the maintenance of complex relationships within 3D VS.



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SCHOLARLY PUBLICATIONS

School of Computer Engineering

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Journal Name: Computerized Medical Imaging and Graphics

IF: 5.4

Title: MultiNet 2.0: A lightweight attention-based deep learning network for stenosis measurement in carotid ultrasound scans and cardiovascular risk assessment

Author: Biswas M.; Saba L.; Kalra M.; Singh R.; Fernandes e Fernandes J.; Viswanathan V.; Laird J.R.; Mantella L.E.; Johri A.M.; Fouda M.M.; Suri J.S.

Details: Volume 117, October 2024

Abstract: Background: Cardiovascular diseases (CVD) cause 19 million fatalities each year and cost nations billions of dollars. Surrogate biomarkers are established methods for CVD risk stratification; however, manual inspection is costly, cumbersome, and error-prone. The contemporary artificial intelligence (AI) tools for segmentation and risk prediction, including older deep learning (DL) networks employ simple merge connections which may result in semantic loss of information and hence low in accuracy. Methodology: We hypothesize that DL networks enhanced with attention mechanisms can do better segmentation than older DL models. The attention mechanism can concentrate on relevant features aiding the model in better understanding and interpreting images. This study proposes MultiNet 2.0 (AtheroPoint, Roseville, CA, USA), two attention networks have been used to segment the lumen from common carotid artery (CCA) ultrasound images and predict CVD risks. Results: The database consisted of 407 ultrasound CCA images of both the left and right sides taken from 204 patients. Two experts were hired to delineate borders on the 407 images, generating two ground truths (GT1 and GT2). The results were far better than contemporary models. The lumen dimension (LD) error for GT1 and GT2 were 0.13 ± 0.08 and 0.16 ± 0.07 mm, respectively, the best in market. The AUC for low, moderate and high-risk patients' detection from stenosis data for GT1 were 0.88, 0.98, and 1.00 respectively. Similarly, for GT2, the AUC values for low, moderate, and high-risk patient detection were 0.93, 0.97, and 1.00, respectively. The system can be fully adopted for clinical practice in AtheroEdge™ model by AtheroPoint, Roseville, CA, USA.



URL: <https://www.sciencedirect.com/science/article/pii/S0895611124001149?via%3Dihub>





SCHOLARLY PUBLICATIONS

School of Computer Engineering

KIIT Deemed to be University

Journal Name: Image and Vision Computing

IF: 4.2

Title: Triplet-set feature proximity learning for video anomaly detection

Author: Biradar, KM; Mandal, M; Dube, S; Vipparthi, SK; Tyagi, DK

Details: Volume 150, October 2024, Article number 105205

Abstract: The identification of anomalies in videos is a particularly complex visual challenge, given the wide variety of potential real-world events. To address this issue, our paper introduces a unique approach for detecting divergent behavior in surveillance videos, utilizing triplet-loss for video anomaly detection. Our method involves selecting a triplet set of video segments from normal (n) and abnormal (a) data points for deep feature learning. We begin by creating a database of triplet sets of two types: a-a-n and n-n-a. By computing a triplet loss, we model the proximity between n-n chunks and the distance between 'a' chunks from the n-n ones. Additionally, we train the deep network to model the closeness of a-a chunks and the divergent behavior of 'n' from the a-a chunks. The model acquired in the initial stage can be viewed as a prior, which is subsequently employed for modeling normality. As a result, our method can leverage the advantages of both straightforward classification and normality modeling-based techniques. We also present a data selection mechanism for the efficient generation of triplet sets. Furthermore, we introduce a novel video anomaly dataset, AnoVIL, designed for human-centric anomaly detection. Our proposed method is assessed using the UCF-Crime dataset encompassing all 13 categories, the IIT-H accident dataset, and AnoVIL. The experimental findings demonstrate that our method surpasses the current state-of-the-art approaches. We conduct further evaluations of the performance, considering various configurations such as cross-dataset evaluation, loss functions, siamese structure, and embedding size. Additionally, an ablation study is carried out across different settings to provide insights into our proposed method.



URL: <https://www.sciencedirect.com/science/article/pii/S026288562400310X?via%3Dihub>

