



## SCHOLARLY PUBLICATIONS School of Computer Engineering KIIT Deemed to be University

**Journal Name:** Journal of Retailing and Consumer Services

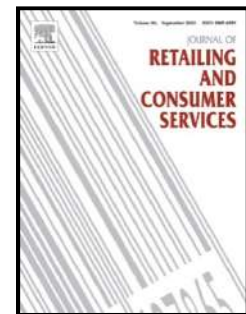
**IF:** 11

**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:** Artificial Intelligence Review

**IF:** 10.7

**Title:** Systematic exploration and in-depth analysis of ChatGPT architectures progression

**Author:** Banik, D; Pati, N; Sharma, A

**Details:** Volume 57, Issue 9, September 2024, Article Number 257

**Abstract:** The fast evolution of artificial intelligence frameworks has resulted in the creation of increasingly sophisticated large language models (LLM), ChatGPT being the most famous one. This study paper dives into this LLM with a case study of ChatGPT's architecture and provides a thorough comparative analysis of its numerous versions, tracking its history from its conception to its most recent incarnations. This research intends to give a full knowledge of the model's history by investigating the underlying mechanisms and enhancements provided in each edition. The comparative analysis covers key aspects such as model size, training data, fine-tuning techniques, and performance metrics. Furthermore, this study evaluates the limits of ChatGPT in its many incarnations. These limitations include common sense reasoning difficulties, biased replies, verbosity, sensitivity to input wording, and others. Each constraint is investigated for potential remedies and workarounds. This research article also provides a complete analysis of the ChatGPT architecture and its progress through multiple iterations. It gives vital insights for academics, developers, and users wanting to harness the promise of ChatGPT while managing its restrictions by exploring both the model's strengths and limitations. The distinctiveness of this paper rests in its comprehensive assessment of ChatGPT's architectural development and its practical strategy for resolving the myriad difficulties in producing cohesive and contextually relevant replies.



**URL:** <https://link.springer.com/article/10.1007/s10462-024-10832-0>





## SCHOLARLY PUBLICATIONS School of Computer Engineering KIIT Deemed to be University

**Journal Name:** Technology in Society

**IF:** 10.1

**Title:** Assessing the usage of ChatGPT on life satisfaction among higher education students: The moderating role of subjective health

**Author:** Rehman, AU; Behera, RK; Islam, MS; Abbasi, FA; Imtiaz, A

**Details:** Volume 78, September 2024, Article number 102655

**Abstract:** OpenAI's ChatGPT is a widely used artificial intelligence tool that has recently experienced rapid growth and widespread adoption. ChatGPT enhances digital accessibility, performance in communication, and supports the creation of digital content, which can be a powerful assistive technology for the education industry. However, the role of ChatGPT for higher education students remains a topic of contention. Therefore, this study is undertaken to investigate how ChatGPT usage can enhance information and communication technology (ICT) accessibility and performance by influencing life satisfaction among higher education students by proposing a unique conceptual model. The primary data were collected from 305 respondents, and quantitative methodology was used to analyse the data. The results indicate that interaction with ChatGPT increases freedom and productivity by producing understandable and relevant responses that meet emotional needs, which are positively correlated with happiness. ChatGPT usage provides unique experiences to students that evoke their feelings to strengthen academic engagement, and such feelings positively influence their perceptions and behaviour towards academic buoyancy. However, the concerns about the biased response, limited knowledge, and lack of emotional intelligence of ChatGPT limit trustworthiness and cause disengagement, which have been deemed the most significant weaknesses in improving quality of life.



**URL:** <https://www.sciencedirect.com/science/article/pii/S0160791X24002033?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 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>





## SCHOLARLY PUBLICATIONS

### School of Computer Engineering

# KIIT Deemed to be University

**Journal Name:** IEEE Journal of Biomedical and Health Informatics

**IF:** 6.7

**Title:** CAGCL: Predicting Short- and Long-Term Breast Cancer Survival with Cross-Modal Attention and Graph Contrastive Learning

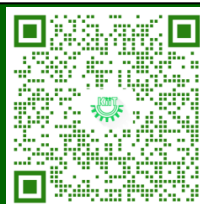
**Author:** Palmal S.; Saha S.; Arya N.; Tripathy S.

**Details:** September 2024

**Abstract:** In breast cancer treatment, accurately predicting how long a patient will survive is crucial for decision-making. This information guides treatment choices and supports patients' psychological recovery. To address this challenge, we introduce a novel predictive model to forecast breast cancer prognosis by leveraging diverse data sources, including clinical records, copy number variation, gene expressions, DNA methylation, microRNA sequencing, and whole slide image data from the TCGA Database. The methodology incorporates graph contrastive learning with cross-modality attention (CAGCL), considering all possible combinations of the six distinct data modalities. Feature embeddings are enhanced through graph contrastive learning, which identifies subtle differences and similarities among samples. Further, to learn the complementary nature of information across multiple data modalities, a cross-attention framework is proposed and applied to the graph contrastive learning-based extracted features from various data sources for breast cancer survival prediction. It performs a binary classification to anticipate the likelihood of short- and long-term breast cancer survivors, delineated by a five-year threshold. The proposed model (CAGCL) showcases superior performance compared to baseline models and other state-of-the-art models. The model attains an accuracy of 0.932, a sensitivity of 0.954, a precision of 0.958, an F1 score of 0.956, and an AUC of 0.948, underscoring its effectiveness in predicting breast cancer survival.



**URL:** <https://ieeexplore.ieee.org/document/10666840>





## SCHOLARLY PUBLICATIONS School of Computer Engineering KIIT Deemed to be University

**Journal Name:** Cognitive Computation

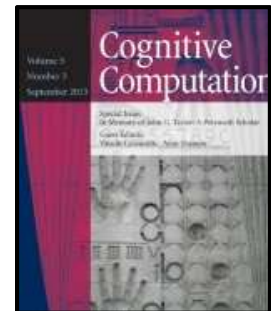
**IF:** 4.3

**Title:** Advancing Medical Imaging Through Generative Adversarial Networks: A Comprehensive Review and Future Prospects

**Author:** Mamo A.A.; Gebresilassie B.G.; Mukherjee A.; Hassija V.; Chamola V.

**Details:** Volume 16, Issue 5, September 2024

**Abstract:** In medical imaging, traditional methods have long been relied upon. However, the integration of Generative Adversarial Networks (GANs) has sparked a paradigm shift, ushering in a new era of innovation. Our comprehensive investigation explores the groundbreaking impact of GANs on medical imaging, examining the evolution from traditional techniques to GAN-driven approaches. Through meticulous analysis, we dissect various aspects of GANs, encompassing their taxonomy, historical progression, and diverse iterations such as Self-Attention GANs (SAGAN), Conditional GANs, and Progressive Growing GANs (PGGAN). Complemented by a practical case study, we scrutinize the extensive applications of GANs, spanning image generation, reconstruction, enhancement, segmentation, and super-resolution. Despite promising prospects, enduring challenges including data scarcity, interpretability issues, and ethical concerns persist. Looking ahead, we anticipate advancements in personalized and pathological image generation, cross-modal synthesis, real-time interactive image generation, and enhanced anomaly detection. Through this review, we underscore the transformative potential of GANs in reshaping medical imaging practices, while also outlining avenues for future research endeavors.



**URL:** <https://link.springer.com/article/10.1007/s12559-024-10291-3>





## SCHOLARLY PUBLICATIONS

### School of Computer Engineering

# KIIT Deemed to be University

**Journal Name:** IEEE Transactions on Consumer Electronics

**IF:** 4.3

**Title:** QuARCS: Quantum Anomaly Recognition and Caption Scoring Framework for Surveillance Videos

**Author:** Mukherjee A.; Hassija V.; Chamola V.

**Details:** 2024

**Abstract:** Traditional surveillance video stream monitoring demands manual analysis, often leading to inaccuracies. While recent advancements have enabled automated analysis in surveillance video stream monitoring, challenges persist in achieving high accuracy and efficiency. Thus, an automated system is needed to monitor and report on video streams in real-time or retrospectively within surveillance networks, alleviating human error and inefficiency. Our paper, presents a comprehensive framework that integrates a hybrid quantum-classical anomaly detection system, a caption-generating model, and a novel Text-Driven Urgency Rating Model (T-DURM) trained using a newly created labelled dataset called UCFC-CUR which prioritises crimes based on their urgency. The hybrid classifier outperforms its direct classical counterpart by 7.7%. The aforementioned pipeline possesses the capability to identify anomalous occurrences from surveillance videos, generate a textual representation of the event, and assign a numerical value indicating the level of urgency associated with the specific anomaly. The hybrid anomaly detection model achieved an AUC of 82.80 surpassing the classical model's AUC of 75.14. While the newly proposed T-DRUM achieves a R2 score of 0.982.

**URL:** <https://ieeexplore.ieee.org/document/10630662>







## SCHOLARLY PUBLICATIONS

### School of Computer Engineering

# KIIT Deemed to be University

**Journal Name:** IEEE Transactions on Consumer Electronics

**IF:** 4.3

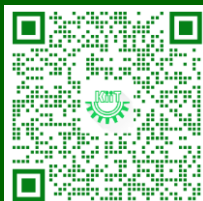
**Title:** TinyDeepUAV: A Tiny Deep Reinforcement Learning Framework for UAV Task Offloading in Edge-Based Consumer Electronics

**Author:** Bebortta S.; Tripathy S.S.; Khan S.B.; Dabel M.M.A.; Almusharraf A.; Bashir A.K.

**Details:** 2024

**Abstract:** Recently, there has been a rise in the use of Unmanned Aerial Vehicles (UAVs) in consumer electronics, particularly for the critical situations. Internet of Things (IoT) technology and the accessibility of inexpensive edge computing devices present novel prospects for enhanced functionality in various domains through the utilization of IoT-based UAVs. One major difficulty of this perspective is the challenges of computation offloading between resource-constrained edge devices, and UAVs. This paper proposes an innovative framework to solve the computation offloading problem using a multi-objective Deep reinforcement learning (DRL) technique. The proposed approach helps in finding a balance between delays and energy consumption by using the concept of Tiny Machine Learning (TinyML). It develops a low complexity frameworks that make it feasible for offloading tasks to edge devices. Catering to the dynamic nature of edge-based UAV networks, TinyDeepUAV suggests a vector reinforcement that can change weights dynamically based on various user preferences. It is further conjectured that the structure can be enhanced by Double Dueling Deep Q Network (D3QN) for optimal improvement of the optimization problem. The simulation results depicts a trade-off between delay and energy consumption, enabling more effective offloading decisions while outperforming benchmark approaches.

**URL:** <https://ieeexplore.ieee.org/document/10643436>





## 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>

