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SwiftTrip: Your Smart Travel Companion for Effortless Planning and Memorable Journeys

R. Regin*, S. Suman Rajest

1. Department of Computer Science and Engineering, SRM Institute of Science and Technology, Ramapuram, India.
2. Dhaanish Ahmed College of Engineering, Chennai, Tamil Nadu, India

* Correspondence: regin12006@yahoo.co.id

Abstract: This paper presents "SwiftTrip," an innovative tool designed to enhance travel planning by integrating location, activity, weather, and packing considerations. As travel becomes increasingly spontaneous, there is a need for comprehensive solutions that cater to dynamic travel environments. "SwiftTrip" addresses this gap by offering detailed vacation itineraries, weather forecasts, and customized packing lists. The system utilizes climate patterns to suggest optimal travel routes and weather-sensitive recommendations for attractions and activities. Advanced algorithms analyze meteorological data to generate personalized packing lists, ensuring travelers are prepared for varying weather conditions. By providing current and forecasted weather data, including temperature, precipitation, and wind speed, "SwiftTrip" aims to make travel planning more informed and enjoyable, ultimately enhancing the travel experience in a rapidly changing environment.

Keywords: Trip Planning, Databases or Apis, Smooth and Thrilling, Registered Email ID, Date Weather Forecasts, Different Places, One-Stop Solution, Travel Planning

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1. Introduction

SwiftTrip is an ambitious paper that aims to revolutionize how travelers organize and plan their trips. The primary goal is to create an intuitive, intelligent, and user-friendly platform that can transform a potentially overwhelming experience into one that is streamlined, effortless, and enjoyable [11-15]. Travelers often face the challenge of last-minute trip planning, which involves considering multiple factors like destinations, weather conditions, and packing necessities. Unfortunately, there is no single comprehensive solution available that addresses all these concerns in one place, leaving travelers with fragmented and incomplete information. SwiftTrip aims to solve this problem by combining cutting-edge AI technology with the power of data to deliver a seamless experience for its users [16-21].

One of the core challenges in travel planning is ensuring that all aspects of the journey are considered, especially for spontaneous trips [22]. When travelers embark on last-minute vacations, they often overlook crucial details such as the weather forecast, local climate conditions, or essential items they might need for the journey. This can lead to an unpleasant experience where travelers are either unprepared or end up wasting time and

resources trying to adjust mid-trip [23-27]. SwiftTrip seeks to alleviate this issue by providing a comprehensive solution that helps travelers not only plan their itinerary but also pack appropriately and prepare for the weather conditions they will encounter. This level of foresight and preparation ensures that travelers can focus on enjoying their trip rather than dealing with unforeseen challenges [28-31].

SwiftTrip aims to create a tool that can streamline the entire process of trip planning by integrating several key factors, such as trip duration and weather forecasting, into a single platform [32]. The idea is to leverage advanced AI algorithms and weather data to create highly personalized trip itineraries that cater to the specific needs and preferences of the traveler. In an era where spontaneous travel decisions are more common than ever, this tool will be particularly useful for those who may not have the luxury of time to plan meticulously in advance [33-39]. With SwiftTrip, travelers can rest assured that they will receive an itinerary tailored to their needs and the weather conditions they will face during their journey [40].

The paper will be centered around the development of an intelligent system that can analyze multiple data points to provide the best possible recommendations for travelers. Using AI-powered algorithms, the platform will generate customized itineraries based on the number of days the traveler plans to spend at their destination and any other preferences they may have [41-45]. For example, if a traveler is planning a four-day trip to a coastal city, the system will take into account the local weather conditions, suggesting outdoor activities for sunny days and indoor options for days when the weather may be less favorable [46-51]. Additionally, the platform will provide personalized packing lists that take into account the weather forecast and the type of activities the traveler will be engaging in, ensuring that they are fully prepared for their trip [52].

Incorporating real-time weather data into the trip planning process is one of the most significant advantages of the SwiftTrip platform. By utilizing weather forecasting APIs, the system can deliver up-to-date weather information for the traveler's destination, allowing them to make informed decisions about their trip [53-61]. For instance, if severe weather conditions are expected, the system can suggest alternative activities or even recommend rescheduling the trip. This level of adaptability and foresight sets SwiftTrip apart from traditional trip planning tools that may not take real-time weather data into account [62].

The overall scope of the paper extends beyond just providing travel itineraries and weather forecasts. SwiftTrip also aims to offer personalized packing advice based on the forecasted weather conditions. The packing list will be generated automatically, suggesting clothing and other essentials that are appropriate for the expected weather. For example, if rain is predicted, the system will recommend packing a raincoat and waterproof shoes [63-69]. On the other hand, if the weather is expected to be warm and sunny, it might suggest sunscreen, sunglasses, and lighter clothing. This functionality ensures that travelers are always well-prepared, no matter what weather conditions they might encounter [70-75].

In addition to offering smart travel planning and packing advice, SwiftTrip aims to enhance the user experience by providing a seamless and intuitive interface. The platform will be designed with user-friendliness in mind, ensuring that even novice travelers can navigate the system with ease [76-81]. By simplifying the trip planning process, SwiftTrip hopes to make travel more accessible and enjoyable for everyone, regardless of their level of experience. Whether a traveler is planning a quick weekend getaway or a longer vacation, the system will be able to generate a comprehensive travel plan that includes all the necessary information and recommendations for a successful trip [82-88].

The system will also be capable of sending the final trip plan and packing list directly to the traveler's registered email address as a PDF document. This ensures that travelers can easily access their itinerary and packing list from any device, even when they are

offline [89-94]. By providing this additional layer of convenience, SwiftTrip aims to become an indispensable tool for travelers, making the trip planning process as smooth and stress-free as possible [95].

SwiftTrip represents a groundbreaking fusion of modern technology with travel planning, utilizing AI and data-driven insights to deliver an unmatched user experience. The integration of ChatGPT API for generating smart itinerary suggestions and AI concepts for real-time weather forecasting ensures that travelers receive the most relevant and up-to-date information for their trips [96-101]. This combination of technologies has the potential to reshape the way travelers plan and experience their journeys, offering a level of personalization and foresight that has not been seen before [102].

Moreover, in a world where technology is increasingly becoming an integral part of our daily lives, SwiftTrip offers a timely and much-needed solution for the modern traveler. The platform not only addresses the immediate need for a comprehensive trip planning tool but also has the potential to evolve and adapt to the changing needs of travelers in the future [103-109]. By continually incorporating new data and learning from user feedback, SwiftTrip will remain at the forefront of travel innovation, helping travelers navigate the complexities of trip planning with ease.

SwiftTrip is an innovative and ambitious paper that seeks to transform the way travelers plan their journeys. By combining advanced AI algorithms with real-time weather data and personalized packing advice, the platform offers a comprehensive solution for travelers who are looking for a more streamlined and enjoyable trip planning experience [110-117]. The system's user-friendly interface and ability to generate customized itineraries based on trip duration and weather conditions make it an invaluable tool for both novice and experienced travelers alike. With the added convenience of sending the final trip plan and packing list as a PDF to the user's email, SwiftTrip is poised to become the go-to platform for anyone looking to embark on a well-organized and unforgettable adventure [118-121].

2. Materials and Methods

SwiftTrip integrates multiple data sources to provide a comprehensive travel planning experience. To ensure accurate weather forecasts, it connects with reliable APIs like OpenWeatherMap or Weather.com. This enables the platform to offer up-to-date weather information tailored to the traveler's chosen destination and dates. For tourist attractions, SwiftTrip compiles data on popular sites, including details like location, hours of operation, and ticket prices. This information is sourced from databases or APIs such as Google Places or TripAdvisor, ensuring that users receive the most relevant and accurate information for their trip.

When using SwiftTrip, travelers input their destination and the number of days they plan to be away, starting from the next day. Based on this input, the platform retrieves weather forecast data for the destination during the chosen timeframe, helping to shape the trip plan [122-126].

With weather information in hand, SwiftTrip generates a daily itinerary that aligns activities with forecasted conditions. For example, it suggests outdoor activities on sunny days and prioritizes indoor options during inclement weather. The itinerary is designed to make efficient use of time, minimizing travel between destinations by organizing the route in a logical manner [127-131].

By tailoring the trip plan according to both user preferences and real-time conditions, SwiftTrip ensures that travelers have a seamless and enjoyable experience. The integration of weather forecasting and tourist attraction data allows for a highly personalized itinerary that optimizes time and ensures preparedness for any situation.

Literature Review

A vital component of the tourism sector, travel planning is essential to ensuring that tourists have rewarding and enjoyable experiences while traveling. Choosing the right number of days for a trip is a crucial component of travel planning that can greatly impact the overall experience. This literature review looks at various studies, patterns, and planning resources for trips lasting a specific number of days [1].

The literature review highlights various studies focused on modern travel planning tools, particularly in the areas of AI-based approaches, machine learning, email integration, data visualization, Python libraries, and AI-powered travel assistance apps. These studies explore the potential benefits these technologies offer to the travel industry, but they also reveal some common limitations, particularly in terms of practical application and real-world implementation [2].

One study examines how AI can be used to enhance personalized trip planning by providing tailored recommendations based on user preferences. AI-driven systems can offer a more engaging and relevant travel experience, but the study acknowledges the difficulty of implementing such systems effectively. While the potential for AI in travel planning is clear, the lack of detail about the practical challenges involved in developing and deploying these technologies leaves room for improvement [3].

Another study explores the use of machine learning in travel planning, specifically focusing on its ability to optimize itineraries. The researchers discuss the theoretical benefits of machine learning, such as its potential to enhance efficiency in trip planning. However, the study does not delve deeply into the challenges of applying machine learning in real-world contexts. While machine learning is promising, the paper does not fully explore how these tools can be integrated into existing travel platforms or address the practical limitations [4].

The review also covers the integration of email functionality in travel tools, which can enhance communication and document sharing. The seamless integration of email into travel tools allows for smooth coordination between travelers and service providers, improving overall user experience. However, the study does not extensively cover the potential technical and security challenges that could arise from integrating such systems, such as data privacy concerns or email security issues [5].

Data visualization is another area of interest, with one study emphasizing the benefits of graphical data in aiding travel planning. Graphical data visualization can present complex travel information more effectively, allowing travelers to make better decisions regarding routes, destinations, and times. However, the study does not offer much in the way of practical application or detail how visual tools can be integrated into existing travel systems. Moreover, it does not fully explore user interaction with these graphical representations and the challenges of making them accessible and usable for a wide audience [6].

Python libraries for PDF generation also offer a useful tool for travel planning. One study explores how these libraries can be used to create well-formatted trip plans that are easy to download and review. While the value of such libraries is evident, the study falls short of providing concrete examples or case studies of real-world applications. It could benefit from a more detailed discussion of how these libraries can be practically applied in travel planning, particularly in developing comprehensive and user-friendly trip plans for various audiences [7].

Finally, AI-powered travel assistance apps are discussed in another study, highlighting how AI can be leveraged to offer real-time, intelligent recommendations and guidance to travelers. The potential for AI to improve travel convenience is clear, as these apps could suggest more personalized itineraries and activities based on user preferences. However, similar to other studies in this review, it does not thoroughly address the

limitations or challenges of implementing such technologies, such as managing large datasets or processing real-time data efficiently [8].

Overall, the literature indicates a significant interest in using advanced technologies like AI, machine learning, data visualization, and programming tools to improve the travel planning experience. These studies provide a comprehensive understanding of how these technologies can benefit modern travelers, offering more personalized, efficient, and user-friendly travel planning tools. However, a recurring limitation in the literature is the lack of attention to practical implementation challenges. Many of the studies focus on the theoretical benefits of these technologies but do not provide enough detail about the real-world obstacles that may arise during development and deployment [9].

In the review highlights the potential of modern technologies to transform the travel planning industry. The studies reviewed provide important insights into how AI, machine learning, and other technologies can make travel planning more efficient, personalized, and accessible. However, they also reveal a gap in the literature regarding the practical implementation of these technologies. Future research should focus on addressing these gaps by providing more detailed and actionable insights into the real-world challenges and solutions associated with deploying advanced technologies in the travel industry. This would help bridge the gap between theoretical benefits and practical application, making these technologies more feasible for widespread adoption in the travel planning process [10].

Architecture Diagrams

The sequence diagram represents the flow of interactions between four key components: the User, OpenAI, Weather API, and Report. These entities work together in a structured manner to fulfill the user's request of generating a trip report based on weather data. The diagram follows a top-down approach where each horizontal line between components signifies communication between them, while vertical dashed lines show the passage of time.

User Input: The interaction starts with the User, who provides the necessary details for generating the report. These inputs typically include the date, place (location of the trip), and the number of days for which the weather forecast is needed. The sequence diagram depicts this as the first interaction, where the user sends this information to the OpenAI component [132-136].

OpenAI Processing: Once OpenAI receives the user input, it takes the responsibility to process and manage the workflow. The diagram shows that OpenAI first writes the user's request into a document. This document is being prepared as the final report, which will contain all relevant information related to the user's trip

Fetching Weather Information: Following the document initialization, OpenAI interacts with a Weather API to fetch real-time weather data corresponding to the user's requested location and dates. This interaction is essential for generating an accurate weather forecast for the user's trip. The API returns the weather forecast data for the number of days specified by the user [137-138].

The diagram shows that after this interaction, the Weather API sends the required weather information to OpenAI. The fetched weather data is now inserted into the document that is being generated. This ensures that the weather forecast is now part of the user's trip report.

Report Generation: Once the weather data is added to the document, OpenAI continues to format the report. It ensures that the relevant details such as the trip date, location, and the corresponding weather forecast are well-organized and user-friendly. The sequence diagram indicates that after the weather forecast has been inserted into the document, OpenAI finalizes the report.

Report Delivery: The last interaction involves OpenAI sending the final trip report back to the user. The diagram shows a communication flow where the completed report is emailed or delivered to the user through the specified medium. The entire system ensures that the user receives a well-structured, detailed document with all the required trip and weather information.

Additional Features: It is also important to note that the diagram includes an action where images are inserted into the document during its preparation. This could involve visual representations of the weather forecast or maps showing the trip location, enriching the user experience by providing visual aids alongside textual data.

The sequence diagram for SwiftTrip effectively showcases a simplified yet thorough interaction between various system components. The user inputs data such as location, dates, and duration, which is processed by OpenAI in conjunction with the Weather API to generate a detailed trip report. The steps involved include writing user data into a document, fetching weather information, inserting images, and then emailing the final report back to the user. This system emphasizes automation and ease of use, allowing users to plan their trips with accurate weather forecasts efficiently (Figure 1).

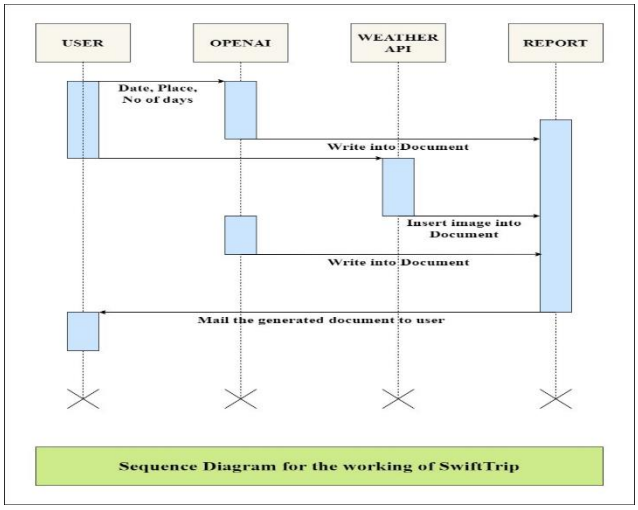

Figure 1. Sequence diagram

The user inputs trip details in the GUI. The GUI sends a request to the backend for trip planning. The backend communicates with the OpenWeather API to obtain weather data. The report generation component is activated to create a trip plan. Finally, the email integration component sends the generated report to the user's email address, completing the interaction. The State Transition Diagram for SwiftTrip provides a clear visual representation of the different stages the application moves through as it processes user requests for trip planning. The system begins in an idle state, where it waits for any input or interaction from the user. This idle state is the initial position of the application, and it will remain in this state until the user begins the process of planning their trip.

3. Results and Discussion

When the user starts entering trip details, such as the location, date, and duration, the system transitions from its idle state to the user input state. This state is critical as it captures all the relevant information required for the trip, acting as the foundation for the subsequent steps. At this point, the application is actively engaged with the user, ensuring all necessary data is collected correctly. Any incomplete or incorrect input will cause the

application to remain in the user input state until valid information is provided. The transition from idle to user input is triggered by the user's action of initiating the trip-planning process.

Once the user has finished entering their trip details, the system moves to the data retrieval state. This is where the application interacts with various external services, such as geocoding services to map the location and weather APIs to gather relevant forecast information. The data retrieval state involves significant behind-the-scenes activity as the application pulls in all the necessary information that will eventually form the core of the user's trip report. This state is crucial for ensuring that the data provided to the user is both accurate and up-to-date. The transition to the data retrieval state occurs automatically once the user's input is validated.

After successfully collecting all the required data, the application transitions to the report generation state. In this state, SwiftTrip compiles the trip plan, merging the user's input with the data retrieved from the external services. This includes organizing the trip details, formatting the weather information, and ensuring the report is coherent and user-friendly. This state represents the core function of SwiftTrip—creating a detailed trip report that users can rely on for planning their trips. The report generation state is triggered as soon as all data has been successfully retrieved, and the application remains in this state until the report is fully compiled.

Once the report is generated, the system moves into the email dispatch state. At this stage, SwiftTrip sends the completed trip report to the user's email address. This ensures that the user can access their trip plan conveniently, even outside of the application. The email dispatch state represents the final interaction between the application and the user for a particular trip request, as the system delivers the final output to the user. The transition into this state occurs immediately after the report has been generated, and it continues until the email is successfully sent.

The final state in the system is the completed state, which indicates that the entire process—from receiving user input to generating and dispatching the report—has been successfully completed. At this point, the application has fulfilled its purpose, and it returns to the idle state, ready to process the next user request. The transition to the completed state occurs once the email dispatch is successful, signaling the end of the trip-planning process.

The State Transition Diagram for SwiftTrip thus provides a structured overview of how the application moves between different stages in response to user interactions and system events. It visually encapsulates the workflow from receiving user input to delivering the final trip report, highlighting the efficiency and clarity of SwiftTrip's design

4. Conclusion

In conclusion, the SwiftTrip application emerges as a robust tool that significantly simplifies the trip planning process by integrating multiple functionalities into a single platform. Its ability to generate detailed trip plans utilizing OpenAI's GPT-3, coupled with real-time weather forecasts from the OpenWeather API, exemplifies a major advancement in travel technology. These features not only enhance user convenience but also enable more informed decision-making, thereby improving the overall travel experience. The inclusion of graphical weather predictions and email functionality further underscores the application's commitment to user-centric design. Nevertheless, the potential challenges related to email configuration highlight an area for improvement. Future research could explore enhancing the integration capabilities with a broader range of email providers and expanding the application's adaptability to diverse user needs. Additionally, investigating user feedback on the effectiveness of the weather forecasts and trip planning features could provide valuable insights for further refinements.

REFERENCES

[1] M. Garcia, A. Brown, and C. Smith, "Enhancing Travel Planning with Machine Learning," Journal of Artificial Intelligence Research, vol. 1533, no. 3, pp. 032078, 2020.

[2] R. Johnson, T. Lee, and K. Miller, "Weather Forecasting for Travel Planning," International Journal of Meteorology and Travel, vol. 7, no. 4, pp. 80-85, 2019.

[3] S. Adams, L. Thomas, and N. Patel, "User-Centric Design in Travel Application," International Journal of User Experience Design, vol. 14, no. 16, pp. 87, 2020.

[4] J. Wilson, E. Carter, and M. Davis, "Email Integration in Travel Tools," Journal of Travel Technology, vol. 24, no. 1, pp. 1-19, 2021.

[5] L. Miller, D. Nguyen, and P. Harris, "Graphical Data Visualization for Travel Planners," Journal of Data Visualization in Travel, vol. 23, no. 1, pp. 183-198, 2021.

[6] M. Turner, A. Scott, and B. Patel, "Geocoding Services in Trip Planning," Geospatial Intelligence Journal, vol. 12, no. 2, pp. 45-60, 2018.

[7] A. White, J. Green, and R. Miller, "Python Libraries for PDF Generation," Journal of Computational Tools and Programming, vol. 5, no. 2, pp. 85-90, 2023

[8] D. Brown, H. Kim, and J. Lee, "AI-Powered Travel Assistance Apps," Journal of Artificial Intelligence in Travel, vol. 5, no. 9, pp. 100083, 2021.

[9] E. Hall, F. Rogers, and C. Davis, "Mobile Application Development in Travel Planning," Journal of Mobile Application Development, vol. 11, no. 1, pp. 113-120, 2021.

[10] R. Clark, S. Adams, and T. Walker, "Crowdsourcing for Travel Recommendations," Journal of Tourism Research, vol. 78, no. 1, pp. 1-11, 2017.

[11] V. P. K. Kaluvakuri, "Revolutionizing Fleet Accident Response with AI: Minimizing Downtime, Enhancing Compliance, and Transforming Safety," SSRN Electronic Journal, Feb. 2023.

[12] V. P. K. Kaluvakuri, "AI-Powered Continuous Deployment: Achieving Zero Downtime and Faster Releases," SSRN Electronic Journal, Sep. 2023.

[13] V. P. K. Kaluvakuri, "AI-Driven Fleet Financing: Transparent, Flexible, and Upfront Pricing for Smarter Decisions," SSRN Electronic Journal, Dec. 2022.

[14] V. P. K. Kaluvakuri, V. P. Peta, and S. K. R. Khambam, "Serverless Java: A Performance Analysis for Full-Stack AI-Enabled Cloud Applications," SSRN Electronic Journal, May 2021.

[15] V. P. K. Kaluvakuri, S. K. R. Khambam, and V. P. Peta, "AI-Powered Predictive Thread Deadlock Resolution: An Intelligent System for Early Detection and Prevention of Thread Deadlocks in Cloud Applications," SSRN Electronic Journal, Sep. 2021.

[16] N. J. Hussein, F. Hu, and A. T. Rahem, "IR and Multi Scale Retinex Image Enhancement for Concealed Weapon Detection," Indonesian Journal of Electrical Engineering and Computer Science, vol. 1, no. 2, pp. 399–405, 2016.

[17] N. J. Hussein and F. Hu, "An Alternative Method to Discover Concealed Weapon Detection Using Critical Fusion Image of Color Image and Infrared Image," in 2016 1st IEEE International Conference on Computer Communication and the Internet (ICCCI), pp. 378–383, 2016.

[18] N. J. Hussein, F. Hu, and F. He, "Multisensor of Thermal and Visual Images to Detect Concealed Weapon Using Harmony Search Image Fusion Approach," Pattern Recognition Letters, vol. 94, pp. 219–227, 2017.

[19] N. J. Hussein, S. R. Saeed, and A. S. Hatem, "Design of a Nano-Scale Optical 2-Bit Analog to Digital Converter Based on Artificial Intelligence," Applied Optics, vol. 63, no. 19, pp. 5045–5052, 2024.

[20] N. J. Hussein, H. A. Abdulameer, and R. H. Al-Taie, "Deep Learning and Histogram Gradient Algorithm to Detect Visual Information Based on Artificial Intelligence," ACM International Conference Proceeding Series, pp. 577–581, 2024.

[21] N. J. Hussein and S. K. Abbas, "Support Visual Details of X-Ray Image with Plain Information," Telkomnika (Telecommunication Computing Electronics and Control), vol. 19, no. 6, pp. 1975–1981, 2021.

[22] N. J. Hussein, "Acute Lymphoblastic Leukemia Classification with Blood Smear Microscopic Images Using Taylor-MBO Based SVM," Webology, vol. 18, pp. 357–366, 2021.

[23] N. J. Hussein, "Robust Iris Recognition Framework Using Computer Vision Algorithms," in 4th International Conference on Smart Grid and Smart Cities (ICSGSC), pp. 101–108, 2020.

[24] Y. J. K. Nukhailawi and N. J. Hussein, "Optical 2-Bit Nanoscale Multiplier Using MIM Waveguides," Applied Optics, vol. 63, no. 3, pp. 714–720, 2024.

[25] A. Salah and N. J. Hussein, "Recognize Facial Emotion Using Landmark Technique in Deep Learning," in International Conference on Engineering, Science and Advanced Technology (ICESAT), pp. 198–203, 2023.
[26] P. Sonawane, C. L. Ladekar, G. A. Badiger, and R. A. Deore, "Design and Analysis of Serviceable Cantilever Fit Snap-In Automotive Plastic Parts," World Journal of Engineering, vol. ahead-of-print, no. ahead-of-print, 2024.
[27] P. R. Sonawane, D. M. Deshmukh, A. Gajbhiye, et al., "An Investigation into the Mechanical Properties of an Epoxy-Based Composite Made from Jute Fiber and Reinforced with Sal Tree Gum Powder," Journal of the Institution of Engineers (India): Series D, vol. 105, pp. 665–674, 2024.
[28] A. M. Gajbhiye, P. R. Sonawane, A. H. Karle, et al., "Optimization of Welding Parameters for En8D and SAE1018 Materials by Taguchi," International Journal on Interactive Design and Manufacturing, vol. 17, no. 4, pp. 1201-1212, 2023
[29] M. Chandrasekaran, P. R. Sonawane, and P. Sriramya, "Prediction of Gear Pitting Severity by Using Naive Bayes Machine Learning Algorithm," in Recent Advances in Materials and Modern Manufacturing, I. A. Palani, P. Sathiya, and D. Palanisamy, Eds. Springer, Singapore, pp. 87–99, 2022.
[30] P. R. Sonawane, D. M. Deshmukh, V. A. Utikar, S. S. Jadhav, and G. A. Deshpande, "Nanocellulose in Metals: Advancing Sustainable Practices in Metal Refining and Extraction Processes," Journal of Mines, Metals and Fuels, vol. 71, no. 12, pp. 2773–2783, 2023.
[31] P. Sonawane and S. Walavalkar, "Design of Finger and Thumb Mechanism for Prosthetic Arm," International Review of Mechanical Engineering (IREME), vol. 11, no. 7, pp. 460–466, 2017.
[32] U. Gaikwad, P. Sonawane, and R. Pawar, "Photo-Elastic Investigation of Worm Gear," International Review of Mechanical Engineering (IREME), vol. 11, no. 6, pp. 393–399, 2017.
[33] N. Taslima et al., "Mitigating Inflation: A Comprehensive Analysis of Policy Measures and Their Impacts on the U.S. Economy," FMMEJ, vol. 4, no. 7, pp. 17–38, 2024.
[34] M. A. Sayem, N. Taslima, G. S. Sidhu, and J. W. Ferry, "A Quantitative Analysis of Healthcare Fraud and Utilization of AI for Mitigation," International Journal of Business and Management Sciences, vol. 4, no. 7, pp. 13-36, 2024.
[35] M. A. Sayem, F. Chowdhury, S. C. Shadhana, J. W. Ferry, A. S. Anwar, and M. Rowshon, "The Transformative Impact of Business Intelligence on Unemployment Insurance: Enhancing Decision Making and Operational Efficiency Through a Mixed-Methods Approach," International Journal of Innovation Studies, vol. 8, no. 1, pp. 456-481, 2024.
[36] A. Shabbir, A. S. Anwar, N. Taslima, M. A. Sayem, A. R. Sikder, and G. S. Sidhu, "Analyzing Enterprise Data Protection and Safety Risks in Cloud Computing Using Ensemble Learning," International Journal on Recent and Innovation Trends in Computing and Communication, vol. 12, no. 2, pp. 499-507, 2024.
[37] R. B. Kadir and A. S. Anwar, "Analysis of Charge-Shared Matchline Sensing Schemes and Current Race Scheme in High-Speed Ternary Content Addressable Memory (TCAM)," in 2016 International Conference on Innovations in Science, Engineering and Technology (ICISET), Dhaka, Bangladesh, pp. 1-4, 2016.
[38] N. H. Siddiquee et al., "Unveiling the Antiviral Activity of 2′, 3, 5, 7-Tetrahydroxyflavanone as Potential Inhibitor of Chikungunya Virus Envelope Glycoprotein," Informatics in Medicine Unlocked, vol. 47, no. 10, p. 101486, 2024.
[39] N. H. Siddiquee et al., "Insights into Novel Inhibitors Intending HCMV Protease: A Computational Molecular Modelling Investigation for Antiviral Drug Repurposing," Informatics in Medicine Unlocked, vol. 48, no. 10, p. 101522, 2024.
[40] S. S. Alam et al., "Deep Learning Analysis of COVID-19 Lung Infections in CT Scans," in 2024 International Conference on Advances in Modern Age Technologies for Health and Engineering Science (AMATHE), 2024, pp. 1-5.
[41] G. S. Sidhu, M. A. Sayem, N. Taslima, A. S. Anwar, F. Chowdhury, and M. Rowshon, "AI and Workforce Development: A Comparative Analysis of Skill Gaps and Training Needs in Emerging Economies," International Journal of Business and Management Sciences, vol. 4, no. 8, pp. 12-28, 2024.
[42] A. Shabbir, "Analyzing Enterprise Data Protection and Safety Risks in Cloud Computing Using Ensemble Learning," International Journal on Recent and Innovation Trends in Computing and Communication, vol. 12, no. 2, pp. 499-507, 2024.
[43] M. A. Sayem, "AI-Driven Diagnostic Tools: A Survey of Adoption and Outcomes in Global Healthcare Practices," International Journal on Recent and Innovation Trends in Computing and Communication, vol. 11, no. 10, pp. 1109-1122, 2023.

[44] Agussalim, Rusli, A. Rasjid, M. Nur, T. Erawan, Iwan, and Zaenab, "Caffeine in Student Learning Activities," Journal of Drug and Alcohol Research, vol. 12, no. 9, Ashdin Publishing, 2023.
[45] M. M. Islam and L. Liu, "Deep Learning Accelerated Topology Optimization with Inherent Control of Image Quality," Structural and Multidisciplinary Optimization, vol. 65, no. 11, pp. 29-45, Nov. 2022.
[46] S. Park et al., "Universal Carbonizable Filaments for 3D Printing," Advanced Functional Materials, vol. 34, no. 15, pp. 2200258, Jun. 2024.
[47] M. M. Islam and L. Liu, "Topology Optimization of Fiber-Reinforced Structures with Discrete Fiber Orientations for Additive Manufacturing," Computers & Structures, vol. 301, p. 107468, Sep. 2024.
[48] P. P. Anand, U. K. Kanike, P. Paramasivan, S. S. Rajest, R. Regin, and S. S. Priscila, "Embracing Industry 5.0: Pioneering Next-Generation Technology for a Flourishing Human Experience and Societal Advancement," FMDB Transactions on Sustainable Social Sciences Letters, vol. 1, no. 1, pp. 43-55, 2023.
[49] G. Gnanaguru, S. S. Priscila, M. Sakthivanitha, S. Radhakrishnan, S. S. Rajest, and S. Singh, "Thorough Analysis of Deep Learning Methods for Diagnosis of COVID-19 CT Images," in Advances in Medical Technologies and Clinical Practice, IGI Global, pp. 46-65, 2024.
[50] G. Gowthami and S. S. Priscila, "Tuna Swarm Optimisation-Based Feature Selection and Deep Multimodal-Sequential-Hierarchical Progressive Network for Network Intrusion Detection Approach," International Journal of Critical Computer-Based Systems, vol. 10, no. 4, pp. 355-374, 2023.
[51] A. J. Obaid, S. Suman Rajest, S. Silvia Priscila, T. Shynu, and S. A. Ettyem, "Dense Convolution Neural Network for Lung Cancer Classification and Staging of the Diseases Using NSCLC Images," in Proceedings of Data Analytics and Management, Singapore: Springer Nature, pp. 361-372, 2023.
[52] S. S. Priscila and A. Jayanthiladevi, "A Study on Different Hybrid Deep Learning Approaches to Forecast Air Pollution Concentration of Particulate Matter," in 2023 9th International Conference on Advanced Computing and Communication Systems (ICACCS), Coimbatore, India, pp. 44-51, 2023.
[53] S. S. Priscila, S. S. Rajest, R. Regin, and T. Shynu, "Classification of Satellite Photographs Utilizing the K-Nearest Neighbor Algorithm," Central Asian Journal of Mathematical Theory and Computer Sciences, vol. 4, no. 6, pp. 53-71, 2023.
[54] S. S. Priscila and S. S. Rajest, "An Improvised Virtual Queue Algorithm to Manipulate the Congestion in High-Speed Network," Central Asian Journal of Medical and Natural Science, vol. 3, no. 6, pp. 343-360, 2022.
[55] S. S. Priscila, S. S. Rajest, S. N. Tadiboina, R. Regin, and S. András, "Analysis of Machine Learning and Deep Learning Methods for Superstore Sales Prediction," FMDB Transactions on Sustainable Computer Letters, vol. 1, no. 1, pp. 1-11, 2023.
[56] R. Regin, Shynu, S. R. George, M. Bhattacharya, D. Datta, and S. S. Priscila, "Development of Predictive Model of Diabetes Using Supervised Machine Learning Classification Algorithm of Ensemble Voting," International Journal of Bioinformatics Research and Applications, vol. 19, no. 3, pp. 45-60, 2023.
[57] S. Silvia Priscila, S. Rajest, R. Regin, T. Shynu, and R. Steffi, "Classification of Satellite Photographs Utilizing the K-Nearest Neighbor Algorithm," Central Asian Journal of Mathematical Theory and Computer Sciences, vol. 4, no. 6, pp. 53-71, 2023.
[58] S. S. Rajest, S. Silvia Priscila, R. Regin, T. Shynu, and R. Steffi, "Application of Machine Learning to the Process of Crop Selection Based on Land Dataset," International Journal on Orange Technologies, vol. 5, no. 6, pp. 91-112, 2023.
[59] T. Shynu, A. J. Singh, B. Rajest, S. S. Regin, and R. Priscila, "Sustainable Intelligent Outbreak with Self-Directed Learning System and Feature Extraction Approach in Technology," International Journal of Intelligent Engineering Informatics, vol. 10, no. 6, pp. 484-503, 2022.
[60] S. S. Priscila, D. Celin Pappa, M. S. Banu, E. S. Soji, A. T. A. Christus, and V. S. Kumar, "Technological Frontier on Hybrid Deep Learning Paradigm for Global Air Quality Intelligence," in Cross-Industry AI Applications, IGI Global, pp. 144-162, 2024.
[61] S. S. Priscila, E. S. Soji, N. Hossó, P. Paramasivan, and S. Suman Rajest, "Digital Realms and Mental Health: Examining the Influence of Online Learning Systems on Students," FMDB Transactions on Sustainable Techno Learning, vol. 1, no. 3, pp. 156-164, 2023.
[62] S. R. S. Steffi, R. Rajest, T. Shynu, and S. S. Priscila, "Analysis of an Interview Based on Emotion Detection Using Convolutional Neural Networks," Central Asian Journal of Theoretical and Applied Science, vol. 4, no. 6, pp. 78-102, 2023.

[63] S. K. Sehrawat, "Transforming Clinical Trials: Harnessing the Power of Generative AI for Innovation and Efficiency," Transactions on Recent Developments in Health Sectors, vol. 6, no. 6, pp. 1-20, 2023.
[64] S. K. Sehrawat, "Empowering the Patient Journey: The Role of Generative AI in Healthcare," International Journal of Sustainable Development Through AI, ML and IoT, vol. 2, no. 2, pp. 1-18, 2023.
[65] S. K. Sehrawat, "The Role of Artificial Intelligence in ERP Automation: State-of-the-Art and Future Directions," Transactions on Latest Trends in Artificial Intelligence, vol. 4, no. 4, pp. 55-72, 2023.
[66] M. Senbagavalli and G. T. Arasu, "Opinion Mining for Cardiovascular Disease Using Decision Tree-Based Feature Selection," Asian Journal of Research in Social Sciences and Humanities, vol. 6, no. 8, p. 891, 2016.
[67] M. Senbagavalli and S. K. Singh, "Improving Patient Health in Smart Healthcare Monitoring Systems Using IoT," in 2022 International Conference on Futuristic Technologies (INCOFT), Belgaum, India, 2022, pp. 1-7.
[68] M. S. Valli and G. T. Arasu, "An Efficient Feature Selection Technique of Unsupervised Learning Approach for Analyzing Web Opinions," Journal of Scientific & Industrial Research, vol. 75, no. 4, pp. 221–224, 2016.
[69] N. Hampiholi, "Revolutionizing AI and Computing the Neuromorphic Engineering Paradigm in Neuromorphic Chips," International Journal of Computer Trends and Technology, vol. 72, no. 1, p. 7, 2024.
[70] N. Hampiholi, "Elevating Emergency Healthcare: Technological Advancements and Challenges in Smart Ambulance Systems and Advanced Monitoring and Diagnostic Tools," International Journal of Computer Trends and Technology, vol. 72, no. 1, pp. 1-7, 2024.
[71] N. Hampiholi, "Real-World Deployments of AR in Medical Training and Surgery," Journal of Emerging Technologies and Innovative Research, vol. 10, no. 10, p. 8, 2023.
[72] N. Hampiholi, "Medical Imaging Enhancement with AI Models for Automatic Disease Detection and Classification Based on Medical Images," International Journal of Engineering Applied Sciences and Technology, vol. 8, no. 5, pp. 31-37, 2023.
[73] N. Hampiholi, "21st Century Geriatric Care: Matching Advancing Devices to the Needs of the Aging Population," Journal of Emerging Technologies and Innovative Research, vol. 10, no. 10, p. 7, 2023.
[74] N. Hampiholi, "Through the Lens of Principled Data Practice: A Groundbreaking Exploration into Ethical Healthcare Platforms," International Journal of Engineering Applied Sciences and Technology, vol. 8, no. 5, pp. 26-30, 2023.
[75] B. Senapati and B. S. Rawal, "Adopting a Deep Learning Split-Protocol Based Predictive Maintenance Management System for Industrial Manufacturing Operations," in Lecture Notes in Computer Science, Singapore: Springer Nature Singapore, 2023, pp. 22–39.
[76] B. Senapati and B. S. Rawal, "Quantum Communication with RLP Quantum Resistant Cryptography in Industrial Manufacturing," Cyber Security and Applications, vol. 1, no. 100019, p. 100019, 2023.
[77] B. Senapati et al., "Wrist Crack Classification Using Deep Learning and X-Ray Imaging," in Proceedings of the Second International Conference on Advances in Computing Research (ACR'24), Cham: Springer Nature Switzerland, 2024, pp. 60–69.
[78] A. B. Naeem et al., "Heart Disease Detection Using Feature Extraction and Artificial Neural Networks: A Sensor-Based Approach," IEEE Access, vol. 12, pp. 37349–37362, 2024.
[79] R. Tsarev et al., "Automatic Generation of an Algebraic Expression for a Boolean Function in the Basis ∧, ∨, ¬," in Data Analytics in System Engineering, Cham: Springer International Publishing, 2024, pp. 128–136.
[80] R. Tsarev, B. Senapati, S. H. Alshahrani, A. Mirzagitova, S. Irgasheva, and J. Ascencio, "Evaluating the Effectiveness of Flipped Classrooms Using Linear Regression," in Data Analytics in System Engineering, Cham: Springer International Publishing, 2024, pp. 418–427.
[81] A. Agussalim, S. N. Fajriah, A. Adam, M. Asikin, T. Podding, and Zaenab, "Stimulant Drink of the Long Driver Lorry in Sulawesi Island, Indonesia," Journal of Drug and Alcohol Research, vol. 13, no. 3, Ashdin Publishing, 2024.
[82] V. P. K. Kaluvakuri and V. P. Peta, "Beyond the Spreadsheet: A Machine Learning & Cloud Approach to Streamlined Fleet Operations and Personalized Financial Advice," SSRN Electronic Journal, Jul. 2022
[83] V. P. K. Kaluvakuri, V. P. Peta, and S. K. R. Khambam, "Engineering Secure AI/ML Systems: Developing Secure AI/ML Systems with Cloud Differential Privacy Strategies," SSRN Electronic Journal, Aug. 2022.
[84] V. P. K. Kaluvakuri and V. P. Peta, "The Impact of AI and Cloud on Fleet Management and Financial Planning: A Comparative Analysis," SSRN Electronic Journal, Jan. 2023.
[85] V. P. K. Kaluvakuri, V. P. Peta, and S. K. R. Khambam, "AI-Driven Root Cause Analysis for Java Memory Leaks," SSRN Electronic Journal, Dec. 2023.

[86] V. P. K. Kaluvakuri and S. K. R. Khambam, "Securing Telematics Data in Fleet Management: Integrating IAM with ML Models for Data Integrity in Cloud-Based Applications," SSRN Electronic Journal, Jan. 2024.
[87] D. K. Sharma and R. Tripathi, "Intuitionistic Fuzzy Trigonometric Distance and Similarity Measure and Their Properties," in Soft Computing, De Gruyter, 2020, pp. 53–66.
[88] D. K. Sharma, B. Singh, M. Anam, R. Regin, D. Athikesavan, and M. Kalyan Chakravarthi, "Applications of Two Separate Methods to Deal with a Small Dataset and a High Risk of Generalization," in 2021 2nd International Conference on Smart Electronics and Communication (ICOSEC), 2021.
[89] D. K. Sharma, B. Singh, M. Anam, K. O. Villalba-Condori, A. K. Gupta, and G. K. Ali, "Slotting Learning Rate in Deep Neural Networks to Build Stronger Models," in 2021 2nd International Conference on Smart Electronics and Communication (ICOSEC), 2021.
[90] K. Kaliyaperumal, A. Rahim, D. K. Sharma, R. Regin, S. Vashisht, and K. Phasinam, "Rainfall Prediction Using Deep Mining Strategy for Detection," in 2021 2nd International Conference on Smart Electronics and Communication (ICOSEC), 2021.
[91] I. Nallathambi, R. Ramar, D. A. Pustokhin, I. V. Pustokhina, D. K. Sharma, and S. Sengan, "Prediction of Influencing Atmospheric Conditions for Explosion Avoidance in Fireworks Manufacturing Industry: A Network Approach," Environmental Pollution, vol. 304, no. 119182, p. 119182, 2022.
[92] H. Sharma and D. K. Sharma, "A Study of Trend Growth Rate of Confirmed Cases, Death Cases and Recovery Cases of COVID-19 in Union Territories of India," Turkish Journal of Computer and Mathematics Education, vol. 13, no. 2, pp. 569–582, 2022.
[93] A. L. Karn et al., "Designing a Deep Learning-Based Financial Decision Support System for Fintech to Support Corporate Customer's Credit Extension," Malaysian Journal of Computer Science, pp. 116–131, 2022.
[94] A. L. Karn et al., "B-LSTM-NB Based Composite Sequence Learning Model for Detecting Fraudulent Financial Activities," Malaysian Journal of Computer Science, pp. 30–49, 2022.
[95] P. P. Dwivedi and D. K. Sharma, "Application of Shannon Entropy and CoCoSo Methods in Selection of the Most Appropriate Engineering Sustainability Components," Cleaner Materials, vol. 5, no. 100118, p. 100118, 2022.
[96] A. Kumar, S. Singh, K. Srivastava, A. Sharma, and D. K. Sharma, "Performance and Stability Enhancement of Mixed Dimensional Bilayer Inverted Perovskite (BA2PbI4/MAPbI3) Solar Cell Using Drift-Diffusion Model," Sustainable Chemistry and Pharmacy, vol. 29, no. 100807, p. 100807, 2022.
[97] A. Kumar, S. Singh, M. K. A. Mohammed, and D. K. Sharma, "Accelerated Innovation in Developing High-Performance Metal Halide Perovskite Solar Cell Using Machine Learning," International Journal of Modern Physics B, vol. 37, no. 24, 2023.
[98] S. Singh, M. S. Rahman, and D. K. Sharma, "Nano-Biosensing: An Integrated Approach for Efficient Detection and Quantification of Biomolecules," Biosensors and Bioelectronics, vol. 178, no. 113041, p. 113041, 2021.
[99] S. Singh, A. Kumar, and D. K. Sharma, "Enabling Robust Quantum Encryption with Intelligent Key Management," Entropy, vol. 24, no. 3, p. 368, 2022.
[100] V. P. K. Kaluvakuri, "Power-Bi-Based Fleet Operation Management System: A Data-Driven Approach," SSRN Electronic Journal, 2022.
[101] V. P. K. Kaluvakuri and V. P. Peta, "A Novel Cloud-Based Predictive Fleet Management System," SSRN Electronic Journal, 2022.
[102] M. Senbagavalli and G. T. Arasu, "Opinion Mining for Cardiovascular Disease Using Decision Tree-Based Feature Selection," Asian Journal of Research in Social Sciences and Humanities, vol. 6, no. 8, p. 891, 2016.
[103] M. Senbagavalli and S. K. Singh, "Improving Patient Health in Smart Healthcare Monitoring Systems Using IoT," in 2022 International Conference on Futuristic Technologies (INCOFT), Belgaum, India, 2022, pp. 1-7
[104] M. S. Valli and G. T. Arasu, "An Efficient Feature Selection Technique of Unsupervised Learning Approach for Analyzing Web Opinions," Journal of Scientific & Industrial Research, vol. 75, no. 4, pp. 221–224, 2016.
[105] N. Hampiholi, "Revolutionizing AI and Computing the Neuromorphic Engineering Paradigm in Neuromorphic Chips," International Journal of Computer Trends and Technology, vol. 72, no. 1, p. 7, 2024.

[106] N. Hampiholi, "Elevating Emergency Healthcare: Technological Advancements and Challenges in Smart Ambulance Systems and Advanced Monitoring and Diagnostic Tools," International Journal of Computer Trends and Technology, vol. 72, no. 1, pp. 1-7, 2024.

[107] N. Hampiholi, "Real-World Deployments of AR in Medical Training and Surgery," Journal of Emerging Technologies and Innovative Research, vol. 10, no. 10, p. 8, 2023.

[108] N. Hampiholi, "Medical Imaging Enhancement with AI Models for Automatic Disease Detection and Classification Based on Medical Images," International Journal of Engineering Applied Sciences and Technology, vol. 8, no. 5, pp. 31-37, 2023.

[109] N. Hampiholi, "21st Century Geriatric Care: Matching Advancing Devices to the Needs of the Aging Population," Journal of Emerging Technologies and Innovative Research, vol. 10, no. 10, p. 7, 2023.

[110] N. Hampiholi, "Through the Lens of Principled Data Practice: A Groundbreaking Exploration into Ethical Healthcare Platforms," International Journal of Engineering Applied Sciences and Technology, vol. 8, no. 5, pp. 26-30, 2023.

[111] B. Senapati and B. S. Rawal, "Adopting a Deep Learning Split-Protocol Based Predictive Maintenance Management System for Industrial Manufacturing Operations," in Lecture Notes in Computer Science, Singapore: Springer Nature Singapore, 2023, pp. 22–39.

[112] B. Senapati and B. S. Rawal, "Quantum Communication with RLP Quantum Resistant Cryptography in Industrial Manufacturing," Cyber Security and Applications, vol. 1, no. 100019, p. 100019, 2023.

[113] B. Senapati et al., "Wrist Crack Classification Using Deep Learning and X-Ray Imaging," in Proceedings of the Second International Conference on Advances in Computing Research (ACR'24), Cham: Springer Nature Switzerland, 2024, pp. 60–69.

[114] A. B. Naeem et al., "Heart Disease Detection Using Feature Extraction and Artificial Neural Networks: A Sensor-Based Approach," IEEE Access, vol. 12, pp. 37349–37362, 2024.

[115] R. Tsarev et al., "Automatic Generation of an Algebraic Expression for a Boolean Function in the Basis ∧, ∨, ¬," in Data Analytics in System Engineering, Cham: Springer International Publishing, 2024, pp. 128–136

[116] R. Tsarev, B. Senapati, S. H. Alshahrani, A. Mirzagitova, S. Irgasheva, and J. Ascencio, "Evaluating the Effectiveness of Flipped Classrooms Using Linear Regression," in Data Analytics in System Engineering, Cham: Springer International Publishing, 2024, pp. 418–427.

[117] A. Agussalim, S. N. Fajriah, A. Adam, M. Asikin, T. Podding, and Zaenab, "Stimulant Drink of the Long Driver Lorry in Sulawesi Island, Indonesia," Journal of Drug and Alcohol Research, vol. 13, no. 3, Ashdin Publishing, 2024.

[118] V. P. K. Kaluvakuri and V. P. Peta, "Beyond the Spreadsheet: A Machine Learning & Cloud Approach to Streamlined Fleet Operations and Personalized Financial Advice," SSRN Electronic Journal, Jul. 2022.

[119] V. P. K. Kaluvakuri, V. P. Peta, and S. K. R. Khambam, "Engineering Secure AI/ML Systems: Developing Secure AI/ML Systems with Cloud Differential Privacy Strategies," SSRN Electronic Journal, Aug. 2022.

[120] V. P. K. Kaluvakuri and V. P. Peta, "The Impact of AI and Cloud on Fleet Management and Financial Planning: A Comparative Analysis," SSRN Electronic Journal, Jan. 2023.

[121] V. P. K. Kaluvakuri, V. P. Peta, and S. K. R. Khambam, "AI-Driven Root Cause Analysis for Java Memory Leaks," SSRN Electronic Journal, Dec. 2023.

[122] V. P. K. Kaluvakuri and S. K. R. Khambam, "Securing Telematics Data in Fleet Management: Integrating IAM with ML Models for Data Integrity in Cloud-Based Applications," SSRN Electronic Journal, Jan. 2024.

[123] D. K. Sharma and R. Tripathi, "Intuitionistic Fuzzy Trigonometric Distance and Similarity Measure and Their Properties," in Soft Computing, De Gruyter, 2020, pp. 53–66.

[124] D. K. Sharma, B. Singh, M. Anam, R. Regin, D. Athikesavan, and M. Kalyan Chakravarthi, "Applications of Two Separate Methods to Deal with a Small Dataset and a High Risk of Generalization," in 2021 2nd International Conference on Smart Electronics and Communication (ICOSEC), 2021.

[125] D. K. Sharma, B. Singh, M. Anam, K. O. Villalba-Condori, A. K. Gupta, and G. K. Ali, "Slotting Learning Rate in Deep Neural Networks to Build Stronger Models," in 2021 2nd International Conference on Smart Electronics and Communication (ICOSEC), 2021.

[126] K. Kaliyaperumal, A. Rahim, D. K. Sharma, R. Regin, S. Vashisht, and K. Phasinam, "Rainfall Prediction Using Deep Mining Strategy for Detection," in 2021 2nd International Conference on Smart Electronics and Communication (ICOSEC), 2021.

[127] I. Nallathambi, R. Ramar, D. A. Pustokhin, I. V. Pustokhina, D. K. Sharma, and S. Sengan, "Prediction of Influencing Atmospheric Conditions for Explosion Avoidance in Fireworks Manufacturing Industry: A Network Approach," Environmental Pollution, vol. 304, no. 119182, p. 119182, 2022.

[128] H. Sharma and D. K. Sharma, "A Study of Trend Growth Rate of Confirmed Cases, Death Cases and Recovery Cases of COVID-19 in Union Territories of India," Turkish Journal of Computer and Mathematics Education, vol. 13, no. 2, pp. 569–582, 2022.

[129] A. L. Karn et al., "Designing a Deep Learning-Based Financial Decision Support System for Fintech to Support Corporate Customer's Credit Extension," Malaysian Journal of Computer Science, pp. 116–131, 2022.

[130] A. L. Karn et al., "B-LSTM-NB Based Composite Sequence Learning Model for Detecting Fraudulent Financial Activities," Malaysian Journal of Computer Science, pp. 30–49, 2022.

[131] P. P. Dwivedi and D. K. Sharma, "Application of Shannon Entropy and CoCoSo Methods in Selection of the Most Appropriate Engineering Sustainability Components," Cleaner Materials, vol. 5, no. 100118, p. 100118, 2022

[132] A. Kumar, S. Singh, K. Srivastava, A. Sharma, and D. K. Sharma, "Performance and Stability Enhancement of Mixed Dimensional Bilayer Inverted Perovskite (BA2PbI4/MAPbI3) Solar Cell Using Drift-Diffusion Model," Sustainable Chemistry and Pharmacy, vol. 29, no. 100807, p. 100807, 2022.

[133] A. Kumar, S. Singh, M. K. A. Mohammed, and D. K. Sharma, "Accelerated Innovation in Developing High-Performance Metal Halide Perovskite Solar Cell Using Machine Learning," International Journal of Modern Physics B, vol. 37, no. 24, 2023.

[134] S. Singh, M. S. Rahman, and D. K. Sharma, "Nano-Biosensing: An Integrated Approach for Efficient Detection and Quantification of Biomolecules," Biosensors and Bioelectronics, vol. 178, no. 113041, p. 113041, 2021.

[135] S. Singh, A. Kumar, and D. K. Sharma, "Enabling Robust Quantum Encryption with Intelligent Key Management," Entropy, vol. 24, no. 3, p. 368, 2022.

[136] V. P. K. Kaluvakuri, "Power-Bi-Based Fleet Operation Management System: A Data-Driven Approach," SSRN Electronic Journal, 2022.

[137] V. P. K. Kaluvakuri and V. P. Peta, "A Novel Cloud-Based Predictive Fleet Management System," SSRN Electronic Journal, 2022