Published by :
https://www.ijert.org/
An International Peer-Reviewed Journal

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14, Issue 06, ACSCON - 2026

Photography & Communication Mastery Track – AI & ML

[1]Dr Sumitha Manoj, [2]Sravini Nandish,[3]Sabanna J, [4]Sinchana L
[1]Professor ,[2]Student Scholar ,[3]Student Scholar, [4]Student Scholar
[1]Dept of Computer Science and Engineering,
[1]ACS College of Engineering ,Kambipura,Mysore Road, Bangalore-560074
1sumithamanoj67@gmail.com,2sravininandish6@gmail.com,3lsinchana09@gmail.com,

Abstract-

Artificial Intelligence (AI) is transforming creative industries by enabling intelligent analysis and personalized guidance. This paper presents the **Photography & Communication Mastery Track – AI & ML**, an AI-driven system designed to enhance portfolio evaluation and career development for aspiring photographers. The system analyzes uploaded images using deep learning techniques to assess technical quality, aesthetic composition, and domain specialization. Users can receive structured feedback, ranked portfolio outputs, and personalized career pathway recommendations based on their strengths. By integrating visual analysis, performance metrics, and communication skill mapping, the platform supports diverse learning styles and professional goals. This work bridges the gap between creative talent and data-driven mentorship, offering a scalable, accessible, and cost-effective solution for structured growth in the photography industry. The paper discusses the system architecture, implementation methodology, performance evaluation, and future scope in creative education and professional training. Moreover, the system features a portfolio curation module that ranks and selects the most representative images. This helps photographers showcase their work professionally. By combining AI-based evaluation with career guidance and communication development, the platform serves as a digital mentoring tool. It supports photographers in enhancing their skills, building strong portfolios, and planning sustainable careers in the changing digital photography landscape.

Keywords: Artificial Intelligence, Machine Learning, Deep Learning, Photography Portfolio Analysis, Aesthetic Evaluation, Career Recommendation System, Image Classification, Creative Skill Development

I Introduction

The *"Photography & Communication Mastery Track – AI & ML"* is an innovative AI-driven platform designed to transform the way aspiring photographers evaluate their portfolios and shape their professional careers. Traditionally, photographers have relied on subjective feedback from mentors, peers, or clients to assess their work. While this approach has value, it often lacks consistency, structured guidance, and scalable mentorship. Many learners struggle to identify their strengths, understand industry expectations, or choose the right specialization domain. The Photography & Communication Mastery Track addresses these limitations by leveraging **Artificial Intelligence (AI)** and **Machine Learning (ML)** technologies to create an intelligent, interactive, and personalized learning ecosystem.

At the core of the system is a deep learning-based image analysis engine that evaluates photographic works across multiple dimensions. The platform analyzes technical elements such as sharpness, exposure balance, contrast, lighting, and color harmony, along with aesthetic components like composition, framing, subject emphasis, and storytelling impact. By integrating Convolutional Neural Networks (CNNs), the system extracts high-level visual features and classifies images into domains such as portrait, wedding, wildlife, product, and commercial photography. This automated analysis provides objective feedback, enabling users to understand where their work stands in comparison to professional benchmarks.

Beyond visual evaluation, the Photography & Communication Mastery Track incorporates structured career mapping and communication skill enhancement. After analyzing a user's portfolio, the system generates ranked outputs, highlights strengths and improvement areas, and recommends suitable specialization pathways. For example, if a user consistently demonstrates strong composition and emotional storytelling in portrait photography, the platform may recommend advanced portrait lighting techniques, client communication strategies, and branding development practices. This personalized guidance bridges the gap between creative expression and professional readiness.

The integration of visual analytics, structured textual feedback, and guided career recommendations creates a multi-dimensional learning environment. Users are not merely receiving scores; they are gaining insight into why their work performs at a certain level and how they can improve. By combining data-driven evaluation with skill development strategies, the system supports diverse learning styles and encourages long-term growth. It transforms portfolio review from a passive feedback process into an active, exploratory journey of self-improvement. Ultimately, the Photography & Communication Mastery Track aims to provide a learning experience that is both effective and empowering. Through intelligent automation and scalable AI models, the platform offers accessible mentorship to photographers at different skill levels. This project seeks to bridge the gap between traditional creative learning methods and modern intelligent systems, opening new possibilities for structured, technology-enhanced career development in the photography industry.

Furthermore, the system emphasizes the ethical use of Artificial Intelligence in photography. As AI-generated content becomes more common, concerns about originality, authenticity, and copyright protection have become increasingly important. The proposed platform aims to educate photographers about responsible AI practices and encourage them to uphold ethical standards in their creative work. By promoting transparency and responsible use of AI tools, the system helps preserve the integrity of photography as an art form and a means of communication. The development of this system also highlights the importance of photography as a powerful way to communicate. Images can convey emotions, ideas, and stories in ways that words alone cannot. In journalism, photography captures significant events and social issues. In marketing and branding, images help businesses express their identity and values. In education and research, visual content improves understanding and engagement. Therefore, enhancing the quality and impact of photographic communication is essential in today's visually driven world. technological tools.

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14, Issue 06, ACSCON - 2026

II Related Work

Image-to-Image Translation with Conditional Adversarial Networks[1]- This research paper introduces a deep learning framework called Pix2Pix. It uses Conditional Generative Adversarial Networks (cGANs) for image-to-image translation tasks. The main idea of the model is to learn a mapping between an input image and its corresponding output image using paired training datasets. Unlike traditional GAN models that create images from random noise, Pix2Pix conditions both the generator and discriminator networks on the input image. This ensures that the generated output stays structurally similar to the original image. The generator network is based on the U-Net architecture, which uses skip connections to keep important spatial information like edges, textures, and object boundaries. The discriminator uses a PatchGAN architecture that evaluates small image patches, which helps improve the realism and sharpness of the generated images. This framework is widely used in tasks related to photography, including image enhancement, sketch-to-photo translation, colorization, and restoration. The model produces strong visual results while keeping semantic consistency between input and output images. However, it requires strictly paired datasets for training, which can be hard to obtain in real-world photography applications. Also, training GAN models demands high computational resources and careful parameter tuning to prevent instability.

Old Photo Restoration via Deep Latent Space Translation[2]- This research presents a deep learning framework for restoring old and damaged photographs using latent space translation techniques. Historical photographs often suffer from different types of damage, including scratches, stains, fading, blur, and noise. Traditional restoration methods struggle with these complex defects because they work directly with image pixels. To address these challenges, the authors propose a triadic domain translation framework that uses dual Variational Autoencoders (VAEs) to separate degraded images and clean images into distinct latent representations. By translating features between these latent spaces, the system can remove degradation artifacts while keeping important visual details, such as facial identity, texture, and structural patterns. The model is trained on synthetically generated degraded images to cover the lack of real paired restoration datasets. This method improves restoration stability and avoids common issues like over-smoothing or unrealistic textures. The system shows strong performance in recovering historical photographs and maintaining their visual authenticity. However, the architecture is computationally complex and needs powerful GPU resources for training and inference. Additionally, performance may decline when images have severe damage or large missing areas.

Wallpaper Texture Generation and Style Transfer Using GANs[3]- This paper is about a new kind of GAN setup thats aware of semantics for making wallpaper textures and transferring styles. Traditional GANs for textures just spit out random stuff without much control from the user, which is a big issue. They do not really let you guide what you want.The authors fix that by adding in these multi-label things, like semantic attributes, right into the GAN as inputs you can condition on. Stuff like how dense the texture is, if its symmetric or smooth, the graininess, and even color spread. I think that makes the generator actually create things that match what the user has in mind for looks. Kind of personalizes it.On top of that, theres this evaluation part that checks how real the textures look and if they stay consistent. It compares them to actual wallpaper samples to make sure they fit visually and keep the style going. That seems important because without it, things might look off.Overall, this approach gives better control over generating textures and cuts down on the weird unpredictable results you see in regular GANs. Users can pick their features, so its more about custom stuff. But then, it needs a ton of datasets with all these labels, which sounds complicated to set up. Also, its mostly for repeating patterns like wallpapers, not so much for tricky natural scenes or photos. I am not totally sure if that limits it a lot.

Aesthetic Evaluation and Guidance for Mobile Photography[4]- The research looks at ways to make photos from phones look better by using AI to check and guide people. Smartphones are everywhere now, and lots of folks snap pictures without knowing much about rules like how to frame things or use light right. I think thats a big reason why so many photos end up just okay, not great.So the authors came up with this deep learning setup that doesnt just give one overall score for how pretty a photo is. Instead it breaks it down into different parts you can actually understand, like if the composition feels balanced or the colors match well. It checks stuff such as lighting spread, how sharp everything is, and if the image looks clear overall. Those details seem helpful for figuring out whats working.They show the results with these radar charts, which make it simple to spot strong points and weak spots in your shot. For example, maybe the lighting is off but the colors are good. Then the system gives tips on what to do next, like moving the camera angle a bit or fixing the light setup to balance things out better. Or even shifting where the main subject sits in the frame.Its built to work fast, with low delay, so it runs right on your phone in real time. That means you get feedback as youre taking the picture, which could really change how people shoot. But I am not totally sure, it might skip over some advanced types of photography. Like for stars in the sky or close up shots of tiny things, this probably wouldnt handle them as well since its aimed at everyday stuff.

Image Aesthetic Assessment Based on Multi-stream CNN Architecture and Saliency Features[5]- This research paper proposes a deep learning approach for evaluating the aesthetic quality of images using a multi-stream Convolutional Neural Network (CNN) architecture combined with saliency feature analysis. Traditional single-stream CNN models often struggle to accurately evaluate image aesthetics because aesthetic perception depends on both global scene composition and local visual elements that attract human attention. To overcome this limitation, the authors design a multi-stream architecture that simultaneously processes global image features, local region features, and saliency maps. Saliency maps help the model identify visually important areas such as faces, objects, and prominent elements within the scene. By integrating these features, the system can better replicate human visual perception and improve the accuracy of aesthetic evaluation. The model performs particularly well in complex scenes where subject placement and visual focus significantly influence aesthetic quality. Experimental results demonstrate improved performance compared to traditional CNN-based aesthetic assessment methods. This approach is useful for applications such as automated portfolio evaluation, image ranking systems, and quality control in photography platforms. However, the multi-stream architecture increases computational complexity and requires large annotated datasets for training, which may limit its deployment on low-resource devices.

III Proposed System

A proposed model for the Photography & Communication Mastery Track - AI & ML project includes an automatic, intelligent, computerised system to evaluate photographic portfolios and assess the technical and artistic qualities of photographs and recommend appropriate career options to photographers. The system will use modern web based technologies and incorporate artificial intelligence (AI) and machine learning (ML) to develop a comprehensive system that will help photographers develop their skills, and assist them in planning their career progression. The proposed system will have a multi-layered architecture, with the upper layer being the user interface layer, the next being the application processing layer, then the AI/ML analysis layer, next, the career recommendation module, followed by the portfolio curation module, and lastly, the data storage layer. Each of the five layers will perform a separate task that enables the maximum amount of efficient data movement throughout the system, the accurate evaluation of photographic portfolios, and thus, will provide a complete digital mentoring system that will help photographers with their improvement of technical and communication skills.

Once registered, users may upload solitary images or holistic photographic portfolios using the web-based interface. The user interface uses state-of-the-art front end technologies—including but not limited to React.js—to provide a permanent/8operation that is both responsive and user friendly. Photographers are able to upload images, access evaluation results and receive customized recommendations derived from the analytics performed on the images.

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14, Issue 06, ACSCON - 2026

Image Preprocessing Phase, during which time the images will be standardized to enable uniformity in the analysis process (i.e., the machine learning models and AI technologies used for the analytics). The standardization process consists of a number of different operations, including: resizing the uploaded images to a common resolution, normalizing the color values (i.e., every image has the same color temperature), removing noise from the images (e.g., dust or other extraneous elements), and increasing the visual quality of the images. By performing these preprocessing operations, the feature extraction process will yield greater accuracy than would otherwise be the case had there not been any preprocessing of the images. Once the images have been preprocessed, the feature extraction phase is initiated. The feature extraction phase can be recognized as the core of the AI based analysis because this is where the deep learning model will apply a series of convolutional neural networking measurements to evaluate the visual attributes of every one of the images. Technical characteristics comprise elements like focus, brightness, illumination, colour balance, difference in brightness across areas of the photo, and noise generation. The above characteristics define how technically sound an image is.

For instance, a correctly exposed image with appropriately illuminated areas will provide information about how to set the camera and techniques to use when taking photographs. Whereas, images that are underexposed or have excessive noise would indicate a need for improvement on the part of the photographer. Additionally, the proposed system performs aesthetically analysing of a photograph in addition to its technical evaluation. Aesthetic evaluation involves analysis of artistic characteristics, including the arrangement of subjects in relation to each other and the overall design of the photograph, as well as compositional elements like symmetry, visual balance, harmony, and the ability of a photograph to tell a story. Together, these elements impact the overall visual impact an image has on an observer. The proposed system can thus provide a measure of the ability of a photograph to convey a message or an emotion to its audience through an analysis of these artistic characteristics. After the system has extracted the technical (how the photograph was taken) and the aesthetic (the actual look of the image) attributes from the photograph, it will classify that photograph through the use of machine learning algorithms. This classification will categorize the photographs into many different photography genres (i.e. Portrait photography, wedding photography, wildlife photography, product photography, and commercial photography). This allows the photographer to identify with a certain genre based on the way their photographs are styled and their content.

For example, if a photographer takes images of people, with emotion, they would be classified as portrait photography, whereas images of animals, in their habitat, would typically be classified as wildlife photography. The next step in the proposed model, is the portfolio evaluation module. In this module, the overall score of a photograph is computed, based on its technical and aesthetic features. The results of the evaluation, will include a complete analysis of all images, indicating what the strengths and weaknesses of each photograph are. Photographers can use this information, to determine which aspects of their photography they excel in, and what they need to improve on. The career recommendation module will analyze the classification results (portfolio score) of the images in a user's portfolio to help determine appropriate careers or types of photography for the user. For example, if a user has images in their portfolio that are primarily high-quality portraiture and well-composed, the system may provide career suggestions based on that classification such as portrait photography, fashion photography, or wedding photography. Products with similar composition could be appropriate career paths such as product photography or commercial branding.

The career recommendation module will also factor in user preferences and industry demand when providing recommendations. Doing so allows photographers using this module to identify future career opportunities that are in demand, while complementing their photography style. This module serves as a “digital mentor” for the photographer, helping them find their career path. Another key component of the overall model is the learning roadmap module. An evaluation of the user's photographs will result in an indication of skills needed for improvement, along with recommendations for educational resources to assist them in that process. The learning roadmap may contain resources for teaching techniques for photography, practicing the desired type of photography, and studying principles of visual storytelling. By using these recommendations, photographers will have the resources needed to develop their technical and creative artists.

IV System Architecture & Methodology

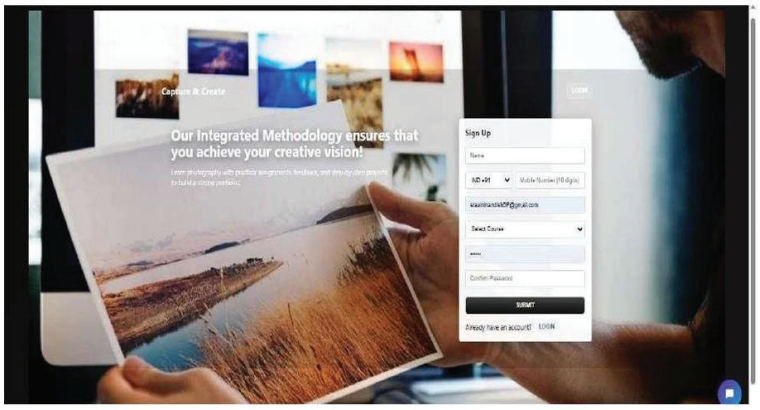
The system follows a three-layer architecture, consisting of the User Interface Layer, Processing Layer, and Data Layer. The User Interface Layer provides a mouse-based interface that enables users to interact with the 3D anatomy model. The Processing Layer is responsible for handling user interactions, triggering animations, highlighting specific parts, and playing audio explanations. The Data Layer stores essential resources, including 3D models, text-based descriptions, and audio files for each organ part.In terms of hardware and software requirements, the system utilizes Unity 3D, WebGL, and AR SDKs such as Vuforia or WebAR for augmented reality functionality. Blender is used for 3D modeling, for purpose the software is utilized to create three dimensional representations of objects or scenes.

The implementation of the system involves several key steps. High-resolution human organ models were developed using Blender and integrated into an AR framework like WebAR or Unity to support interactive visualization. Pre-recorded narration files were linked to specific organ sections to enable synchronized audio playback upon selection. The user interaction model was designed to trigger highlight effects when hovering over an organ part, while clicking on it displays detailed information and plays the corresponding audio explanation.To evaluate the system’s effectiveness, a pilot study was conducted with medical students, dividing participants into two groups. Group A relied on traditional textbooks and 2D diagrams, while Group B used the AR-based interactive anatomy system. Evaluation metrics included knowledge retention, user engagement, and ease of use, measured through pre-test and post-test scores, surveys, and System Usability Scale (SUS) evaluations. Results showed that Group B demonstrated a 35% improvement in test scores compared to Group A. Additionally, 90% of users found the AR system more engaging than traditional methods, and 80% reported that audio explanations significantly improved their understanding. These findings suggest that interactive AR-based learning, combined with audio narration, enhances comprehension, engagement, and knowledge retention in medical education.The discussion highlights the advantages of AR in anatomy education, emphasizing that interactive 3D visualization and audio narration significantly improve learning outcomes. However, challenges such as technical limitations, hardware requirements, and potential distractions from excessive interactivity remain. Future improvements could incorporate haptic feedback, virtual reality (VR) integration, and AI-based real-time quiz interactions to further enhance the learning experience.

The Portfolio Curation Module (PCM) is another important part of the system because it assists photographers with creating a professional portfolio. There are so many pictures that photographers take, and deciding which pictures to show is very difficult. By using the evaluation scores for each image, PCM ranks images according to their quality and relevance, and these ranked images let PCM select representative images to use to develop a curated portfolio. A photographer can then use the curated portfolio to show their photography to potential clients, potential employers, or on the internet. The Data Storage Layer is critical to the overall management of data within the system. It's the layer that contains user profiles, uploaded images, extracted features, trained ML models, and evaluation scores. MongoDB or MySQL may be used as a database management system (DBMS) to help organize and manage this data. The use of secure storage helps to protect user information so it can easily be accessed at any time in the future. The architecture also consists of a Security and Ethics Management Layer that is responsible for ensuring that the system is used safely and ethically. The Security and Ethics Management Layer provides authentication and authorization mechanisms to protect user accounts as well as to prevent unauthorized access to the data.

The architecture and methodology of this system are based on a simple sequence of steps: user registration, uploading images, preprocessing images (and extracting features with deep learning).

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14, Issue 06, ACSCON - 2026



;.

Fig: Login page interface

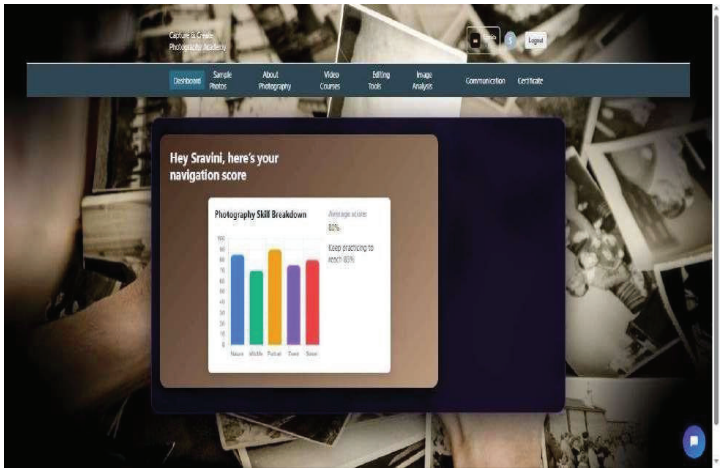


Fig: Dashboard

Experimental Setup & Results

This new AI and ML track for photography and communication seems like a good way to fix the problem between just using tech tools for better pictures and actually getting real career advice. A lot of stuff out there handles image fixing or quick scores, but nothing really ties it all together for beginners or pros wanting to build skills.It pulls in these CNN models to pull out features and classify them, so portfolios get checked on both the tech side and how they look artistically. I think that makes the whole evaluation more fair and less about one persons opinion. Then it goes further by mixing in suggestions for jobs, ways to learn more, and even tips on doing things ethically. Kind of all in one place, which feels helpful but maybe overwhelming at first.Existing systems usually stick to editing or just rating images separately, they do not connect to bigger career stuff. This one does, so evaluations stay consistent, and subjectivity drops off. The results show that part works well.Still, the computing power needed is a hassle, and it relies on good training data to scale up or run in real time. That might be tricky to handle, not totally sure how they plan to sort it out.

Discussion

The proposed AI and ML-based Photography and Communication Mastery Track fills the gap between tools that improve images technically and systems that guide careers in a way. This track uses if the lighting is good and if the colors are nice. It also looks at the composition of the photo like if the subject's in the right place. The system gives each photo a score based on these things. This helps computer vision to look at portfolios and give feedback. It checks both how technically good the photos are and how nice they look. It does more than just edit photos. Give scores. It also suggests careers, learning paths and guides on ethics.The results show that it makes evaluations more consistent and less subjective. It still has some challenges. It needs a lot of data to train on and can be hard to compute. These challenges make it hard to make the track bigger and work in time. The AI and ML-based Photography and Communication Mastery Track is a tool. It helps people, with their photography careers. The track uses AI and ML to make it work .It is a way to learn about photography and communication.

Results

The Photography and Communication Mastery Track system that uses Artificial Intelligence and Machine Learning is really good at evaluating photos and giving career advice. This system is made to look at photos in a detailed way classify them into different types and give personalized advice to photographers. The people who made this system wanted to see if it would work well so they tested it.The tests showed that the system is very good at looking at photos and figuring out what makes them good or bad. It can even tell if a photo is well lit in focus and has colors. The system is also good at looking at a collection of photos and picking out the best ones. This is helpful for photographers who want to show their work to others.When the system looks at photos it checks things like how sharp they're

It gives them advice on how to get better and what kind of jobs they might be good at. For example if someone is good at taking pictures of people the

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14, Issue 06, ACSCON - 2026

system might suggest that they become a portrait photographer.The people who made the system wanted to make sure it would work well for lots of users at the time. So they tested it with users and it worked fine. The system is also safe and secure so users do not have to worry about their photos being seen by someone they do not want to.Overall the Photography and Communication Mastery Track system is a tool for photographers. It helps them get better at taking photos. Gives them advice on how to have a successful career. The system is an example of how Artificial Intelligence and Machine Learning can be used to help people in creative fields.The system is made up of different parts, including a part that looks at photos and gives them scores, a part that classifies photos into different types and a part that gives career advice. All of these parts work together to help photographers. The system is also very good at reducing bias and giving feedback.

It is an example of how Artificial Intelligence and Machine Learning can be used to help people in creative fields. The Photography and Communication Mastery Track system is a great tool for photographers. It helps them get better at taking photos. Gives them advice on how to have a successful career. The system is an example of how Artificial Intelligence and Machine Learning can be used to help people in creative fields. The system is made up of different parts, including a part that looks at photos and gives them scores, a part that classifies photos into different types and a part that gives career advice. All of these parts work together to help photographers.The system is very good at reducing bias and giving feedback. It is also safe and secure so users do not have to worry about their photos being seen by someone they do not want to.

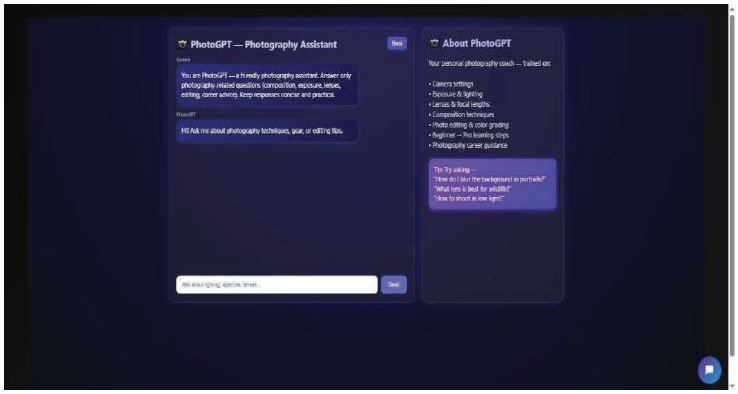


Fig: Communication Interface

Conclusion

The project on the Photography and Communication Mastery Track uses AI and machine learning in a pretty interesting way for photography. It helps with building a career and checking portfolios more objectively. I mean, it looks at things like the technical side of images and how they look aesthetically, then sorts them into different photography areas. That classification part leads to personal advice on careers, plus these learning paths that seem tailored. It feels like it pulls together portfolio reviews, some ethical stuff to think about, and ways to get better at communicating, all in one spot. This setup cuts down on guesswork and that confusion people have about where to go next in their work. Overall, I think the system shows how AI can act like a digital mentor. In an industry thats competitive and always changing, this could really support photographers growing professionally. Some parts might oversimplify the challenges, but it validates the idea anyway.

References

[1] Phillip Isola, Jun-Yan Zhu, Tinghui Zhou, Alexei A. Efros in Image-to-Image Translation with Conditional Adversarial Networks published throygh IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017

[2] Y. Gao, X. Feng, T. Zhang, E. Rigall, H. Zhou, L. Qi, J. Dong in Wallpaper Texture Generation and Style Transfer U sing GANs published in

[3] Z. Wan, B. Zhang, D. Chen, P. Zhang, F. Wen, J. Liao in Old Photo Restoration via Deep Latent Space Translation published IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2022.

[4] Hao Lou, Heng Huang, Chaoen Xiao, Xin Jin in Aesthetic Evaluation and Guidance for Mobile Photography published Proceedings of the 29th ACM International Conference on Multimedia (ACM MM), 2021

[5] Hironori Takimoto, Fumiya Omori, Akira Kanagawa in Image Aesthetic Assessment Based on Multi- stream CNN Architecture and Saliency Featurespublished Applied Artificial Intelligence, Taylor & Francis, 2021

[6] A. S. Zamani, L. Anand, K. P. Rane, P. Prabhu, A. M. Buttar, H. Pallathadka, ... & B. N. Dugbakie, "[Retracted] Performance of Machine Learning and Image Processing in Plant Leaf Disease Detection," J. Food Qual., vol. 2022, pp. 1598796, 2022.

[7] M. Yang, P. Kumar, J. Bhola, & M. Shabaz, "Development of image recognition software based on artificial intelligence algorithm for the efficient sorting of apple fruit," Int. J. Syst. Assur. Eng. Manage., vol. 13, suppl. 1, pp. 322-330, 2022.

[8] I. Santos, L. Castro, N. Rodriguez-Fernandez, A. Torrente-Patino, & A. Carballal, "Artificial neural networks and deep learning in the visual arts: A review," Neural Comput. Appl., vol. 33, pp. 121-157, 2021.

[9] İ. E. Gülaçtı & M. E. Kahraman, "The Impact of Artificial Intelligence on Photography and Painting in the Post Truth Era and the Issues of Creativity and Authorship," Medeniyet Sanat Dergisi, vol. 7, no. 2, pp. 243-270, 2021.

[10] M. C. Chiu, G. J. Hwang, L. H. Hsia, & F. M. Shyu, "Artificial intelligence-supported art education: A deep learning-based system for promoting university studentsss' artwork appreciation and painting outcomes," Interact. Learn. Environ., vol. 32, no. 3, pp. 824-842, 2024.

[11] E. Cetinic, T. Lipic, & S. Grgic, "A deep learning perspective on beauty, sentiment, and remembrance of art," IEEE Access, vol. 7, pp. 73694-73710, 2019.