PHOTO BUDDY
REAL TIME RAW IMAGE QUALITY ASSESSMENT AND ENHANCEMENT

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A dissertation submitted in partial fulfillment of the requirement for BSc (Hons) Computer Science Degree

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in collaboration with
University of Westminster, UK

2021

Abstract

Photography is one of the most trending domains in the modern world where anyone can be a part of it. Capturing an image with a bit of creativity simply showcases the passion towards photography and it is the art of capturing light using a camera to produce an image using a digital sensor. Images can be captured using digital cameras as well as mobile phone cameras where each camera produces equal amounts of quality nowadays.

Exposure plays a huge role in photography where it determines the lighting of an image. Exposure triangle which consists of ISO, Shutter speed and Aperture is known as the three pillars of photography which impact the quality of an image. Photographers tend to use both manual and auto modes to shoot images where quality of the image is checked using their own naked eyes. Manual settings are preferred more by photographers where it gives more control over the camera to capture quality images and gives a chance to be more creative.

Through research it was identified that amateur photographers take more time to learn and properly use manual camera settings when shooting images and also unable to determine the quality of the captured image. This project would provide a solution for this addressed matter by developing a mobile application to capture images and assess image quality in real time and then recommend manual camera settings according to the image quality. Enhancing and showcasing meta data of the captured image would be features of this application. Image processing, image classification and convolutional neural networks were the technologies used in this system development. The author believes that this solution would be beneficial for amateur photographers to learn more about photography and take control over the cameras through the success of this project.