

Title: Image Fusion for Multi-Focus and Multi-Exposure Images

Abstract: The natural dynamic range is much broader than the dynamic range a digital camera can capture. As a result, the images captured by ordinary cameras suffer from visibility issues; some images look overly bright, while others look overly dark. Therefore, in the research, we will investigate the solution for image fusion, where multiple images can be combined to produce a single comprehensive image with better perceptibility. The study will investigate and design artificial intelligence-based techniques to combine images taken from different modalities under different focuses and lighting conditions to produce a single comprehensive image. In addition to generic images, this technique is helpful for medical images where images taken from different modalities, such as X-rays and MRIs, are combined to produce a single image containing all the sources' information.

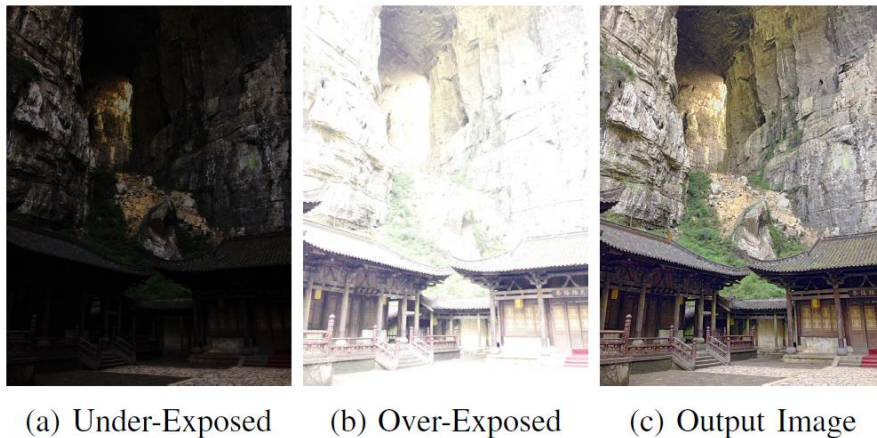


Fig. 1: Multi-Exposure Image Fusion

Data Availability: Data will be shared with the students who wish to conduct research in this domain.