

The author's article examines a project focused on image processing in the cloud, which aims to establish an efficient and productive research environment for image processing within a cloud computing infrastructure. The cloud offers adequate storage and computing power, as well as an open platform for sharing knowledge, research algorithms, and educational materials. Previous works related to parallel image processing using the Hadoop platform are discussed, such as HIPI, Hadoop MapReduce for Remote Sensing Image Analysis, Parallel Image Database Processing with MapReduce, Performance Evaluation in Pseudo Distributed Mode, and Large-scale Image Processing Using MapReduce. To provide customized services, share resources, facilitate teaching, and enable deeper collaborations, the PVAMU Cloud Computing Centre creates a virtual machine farm based on Apache Cloud Stack. The image processing cloud is built by integrating the image processing library OpenCV with the Hadoop platform to deliver PaaS tailored specifically for image processing. The article discusses the challenges of performing image processing on Hadoop, such as data distribution, low latency, and a Domain Specific Language (DSL), and presents three commonly used image processing algorithms, namely DFT, face detection, and template matching, to perform performance and programming experiments on an image processing cloud. The main objective of the project is to investigate the feasibility and performance of using the Hadoop system to process large numbers of images, big sizes of images, or videos. A user-friendly interface will be provided to simplify image processing using a cloud computing platform.