

ABSTRACT

IMPLEMENTATION OF IMAGE RECOGNITION IN DETECTING ART PLAGIARISM ON STARTUP ARTCART

By

SHALAHUDIN FADILAH BHAKTI

NIM : 1202160340

Artworks are part of human culture. Through art, humans can express thoughts and feelings. The beauty and meaning of a work of art gives value to the work of art itself. This value can be translated into the price of the work. So that artwork, besides being a medium of human expression, can also be a valuable commodity that is traded. Some works of art from famous artists can reach hundreds of billions of rupiah. Very high prices, combined with scarcity because each piece of art must be unique, makes dishonest people sell famous works of art by copying them without permission.

With the development of technology, the trade in art also entered the digital world. Art buyers can view, assess, and buy art from anywhere in the world without leaving their home. However, the development of this technology also has a negative impact on the art world. Artwork plagiarism is increasingly prevalent, due to easy access to artwork information and the existence of software that can facilitate the plagiarism of artwork. Plagiarism of artworks, in addition to infringing on the copyright of the original artists, also harms the seller and buyer. Sellers who are known to sell plagiarized art can lose the trust of their customers and have problems with the law. To overcome the plagiarism of artwork, a sistem is needed to detect whether an artwork contains elements of plagiarism or not.

ArtCart is an e-commerce application that concentrates on artwork. The ArtCart application was developed to assist artists and art craftsmen in marketing their artworks. In addition, ArtCart is also intended for artists who are still pioneering to market their art and get public recognition. Artwork plagiarism detection systems are needed at ArtCart to ensure the originality of artwork marketed at ArtCart. With this sistem, ArtCart can guarantee artists that artworks that copy their works will not be able to be marketed on ArtCart, as well as provide peace to buyers that the art they buy does not contain plagiarism. This sistem is also useful for ArtCart in increasing the trust of artists and buyers for ArtCart, so that they will be loyal using the ArtCart application.

The method of developing an art plagiarism detection system in the ArtCart application in this study uses the Iterative Waterfall method which consists of analysis, design, coding, and testing. CBIR architecture based detection system

with image feature extraction using the ResNet50 model that has been drilled with ImageNet and searching with the HNSW algorithm. The data used is the work of art in the ArtCart application. Making the system using the Python Programming Language and MySQL database. The system itself is integrated into the ArtCart application using the artisan commands from Laravel and run with a cron job so as not to overload the system.

Keywords: ArtCart, Image Recognition, Plagiarism, ResNet50, CBIR