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In Collaboration with

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**DERMATURE: Hybrid approach for diagnosis of Granuloma
annulare and Ringworm**

A dissertation by

Mr. Dimithra Nimnaka Bandara

Supervised by

Ms. Niwarthana Kariyabaduge

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Abstract

The skin is the largest organ on the human body, covering the entire body and acting as a barrier against infections, scars, viruses, and bacteria. Skin can become infected due to a variety of factors, including exposure to the outside world, allowing viruses and bacteria to infect the skin, resulting in skin conditions known as skin diseases. Correctly identifying skin disorders is a difficult task due to variety of reasons, including the fact that every once in a while, non-specialized doctors are unable to diagnose the disorder by visually examining the skin. As a result, they will conduct a number of tests to establish the disease so that they can provide appropriate treatments to patients and decrease the chance of the disease spreading further. During the diagnosis process, there will be various faults that will cause the process to be misled, resulting in misdiagnoses. Ringworm and Granuloma annulare are two diseases that are frequently misdiagnosed due to their similar symptoms and characteristics. To address this issue, researchers have proposed many ways that will use both machine learning and deep learning technologies to reliably identify various types of skin illnesses with minimal mistakes. The proposed solution is a responsive web application that can differentiate between ringworm and granuloma annulare skin diseases and provide accurate diagnostic results and treatment recommendations based on the classified disease using a combination of machine learning and deep learning algorithms.

Subject Descriptor: Computer Vision, Image processing.

Keywords: Skin Diseases, Machine Learning, Deep Learning, Convolutional Neural Networks, Artificial Intelligence, Classification.