IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 5, May 2023

A Lightweight CNN Architecture for Land Classification on Satellite Images

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Abstract: *Land classification using satellite images is an important task for various applications such as urban planning, land management, and environmental monitoring. In this paper, we propose a lightweight convolutional neural network (CNN) architecture for land classification on satellite images. The proposed architecture consists of three convolutional layers, followed by a max-pooling layer and two fully connected layers. The number of filters in the convolutional layers is kept low to reduce the computational complexity of the network. The proposed network is trained and evaluated on a publicly available dataset of satellite images, achieving an accuracy of 91.4%. We also compare the performance of our proposed architecture with other state-of-the-art CNN architectures and demonstrate that our proposed architecture outperforms them in terms of computational efficiency and memory usage. Our lightweight CNN architecture can be used for real-time land classification on satellite images, making it a useful tool for various applications.*

Keywords: Land classification, satellite images, convolutional neural network, lightweight architecture, max- pooling, fully connected layers, computational efficiency, real- time classification

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