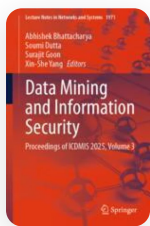


Attention-Enhanced Deep Learning Framework with Edge-Aware Preprocessing for Ground-Based Cloud Classification

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Abstract

In weather forecasting, aviation safety, and climate-related decision-making a vital role is being played by cloud classification. Traditional methods, which often depend on manual observation or handcrafted features, tend to fall short under diverse atmospheric conditions. In response, this work explores many approach which are established on deep learning to automate many type of cloud classification from ground-based imagery. The model is based on a Convolutional Neural Network (CNN) architecture, enhanced with