Accessibility of Big Data Imagery for
Next Generation Computer Vision Applications

Accesibilidad de Big Data Imagery para Aplicaciones
de Visión por Computadora de Última Generación

Accessibilité de l'Imagerie Big Data pour les
Applications de Vision Informatique de Prochaine Génération

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EXTENDED ABSTRACT

There is an unprecedented growth of digital imagery information collected from research and surveys conducted in marine ecosystems. To increase accessibility of the big data imagery to research and discovery by the broader scientific community, data enterprises must develop the necessary metadata and storage to enable the use of analytical tools that use computer vision and machine learning capabilities. NOAA programs have made progress with the collection, storage, and processing of imagery data, yet efforts are underway to improve the accessibility of these data to new analytic tools to streamline processing and provide more precise quantitative measures. Standardized metadata, reliable storage, and timely user access to big data imagery are a priority for NOAA's data enterprise. The current state of NOAA Fisheries' imagery collection, storage, and accessibility is presented to highlight challenges, lessons learned and recommendations for improving the accessibility of big data imagery for computer vision applications. The benefits of these efforts increase accessibility of big data imagery, significantly reduce processing costs, and provide more precise and timely scientific products for the sustainability of marine resources.

KEYWORDS: Technology, imagery, mMachine learning, computer vision, ecosystem