THE OHIO STATE UNIVERSITY

Environmental Science Graduate Program Student Seminar Series

Land cover mapping of high-resolution satellite images with transfer learning

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https://osu.zoom.us/j/98924708162?pwd=VFF1WWNwOGFGd2kzZWN3RXQ0Z09uQT09

Abstract

High-resolution remote sensing satellite images can cover the global earth surface on a weekly basis. Accurate land cover/land use maps derived from these images play an important role in applications such as agriculture, urban planning and environmental monitoring. Generally, land cover classification tasks are accomplished using supervised machine learning methods to produce reliable and accurate results. However, this is at the expense of a large number of annotated training samples, which are often impractical at scale. Although reusing models trained from a source dataset and applying that to new dataset seem to be viable to some extent, it is often found to be highly dependent on the patterns of scene and radiometric properties of the new dataset. Transfer learning approaches can take this as a problem for study and aim to remap different patterns to a common feature space. My research goal is to deal with the problem of lacking training samples in the land cover mapping tasks of high-resolution satellite images with transfer learning methods.