

中文摘要：

近年來衛星與無人機遙測技術逐漸成熟，可以被廣泛運用在農情查報，甚至勘災作業技術上。遙測圖資數量急遽增加，導致人力辨識的速度跟不上遙測圖資的生成速度，農情查報速度過於緩慢，無法達到資訊即時性。因此我們需要透過最新深度學習技術，來輔助快速判釋光譜影像航照圖。遙測影像經由深度學習模式辨識後，往往還需再由專家去判斷辨識結果是否正確，使深度學習模型辨識率提升。辨識錯誤需將此影像做標記，讓模式重新學習。若單以人工的方式建立辨識錯誤的樣本，會花費許多的時間。因此我們需要一個系統能輔助專家對遙測影像進行快速標記以解決這個問題。為了解決上述問題，我們提出兩個方法。第一，提出新的深度學習模型。類神經網路常應用於影像辨識領域中，並且有不錯的結果。第二，開發深度學習平台網站，網站將透過深度學習模式辨識遙測影像。若辨識錯誤使用者可以點按回饋鈕，系統將讓深度學習模式重新學習。此外，本系統還會提供自動標註功能，簡化專家與使用者對遙測影像標註之步驟。

英文摘要：

In recent years, satellite and unmanned aerial remote-sensing technology has been well developed, and can be widely used in agricultural information investigation and reporting, and even disaster survey operations. The number of remote-sensing images has increased sharply, causing the speed of human identification to keep up with the generation rate of remote-sensing images. Therefore, we need to use the latest deep learning technology to assist in the rapid interpretation of aerial images of spectral images. In order to achieve the above objectives, we propose two solutions. First, we will develop a new deep learning model. This project proposes a CNN model to automatically capture features of remote-sensing images and classify these images. Second, we will develop a deep learning platform. In this platform, if the recognition result is incorrect, the user can click the feedback button, and the system will re-train the CNN model again. In addition, the system will provide automatic annotation feature for remote-sensing images.