

中文摘要：

深度學習技術可用於自動判釋航空照片中的資訊，例如用辨別農田裡的農作物。儘管它們是個前瞻性技術，但在農田分割或高精準標註資料等仍然具有挑戰。因此本提案提出三個針對不同對象的自動分割和標記問題，第一，我們將使用校準航照圖像來建立水稻語義分割模型。其次，我們將開發每個地區不同季節的區域作物判釋模型。第三，提出偵測坵塊異動情形的機器學習方法。今年將繼續使用 2021 年研究的模型繼續優化，來提高性能以解決目標 1 和 2。另一方面，目標 3 是我們今年要解決的新課題。在分割和標記模型開發完成之後，我們將使用航照圖來評估所提出模型的效率是否達到我們訂定的目標。

英文摘要：

Deep learning technologies can be used to automatically interpret aerial photographs, such as labeling agricultural fields with their types. Even though they are promising technologies, high accuracy in segmenting and labeling agricultural fields remains challenging. This proposal focuses on the issue of automatic segmentation and labeling. There are three research goals in this proposal. First, we will use calibrated aerial images for building rice semantic segmentation models. Second, we will develop regional crop interpretation models for different crops in different seasons in each region. Third, find the machine learning methods for parcel classification. In this year, the model from 2021 research will be used and we will still improve the performance to solve goals 1 and 2. On the other hand, goal 3 is the new topic we want to solve for this year. After the development of the segmentation and labeling models, we will use aerial photographs to evaluate the efficiency of the proposed models.