Implementation of the Tensorflow Framework with the API Detection Object Method and Convolutional Neural Network on Land Documents in Electronic Services at the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency

Fajar Buyung Permadi, Dony Ferdiansyah, Yuli Ardianto Wibowo, Gama Eko Nurwanto and Wahyuni Wahyuni (Indonesia)

SUMMARY

This research aims to analyzing land document based on the type and year of changes, testing the accuracy of object detection using the tensorflow framework object detection API and CNN algorithm and classifying land document by type and year. The research is divided into two parts, namely the model training process and the model testing process. The model training process starts from the stage of collecting a dataset in the form of 960 images where 80% of the dataset is a training image and 20% of the dataset is a test image. Next, the preprocessing stage is to label the objects in each image into 4 classes, namely the book of land title (the first page certificate), the contents land title (second page certificate), the book of measurement (third page certificate), parcel drawing certificate (fourth page certificate). System testing is carried out using the spatial resolution of the document and the conditions of the original document. Each set of tests is repeated for accurate results. The test results show a success rate of 90% for the identification of documents with good spatial resolution and the condition of the original documents are intact and clear, then it decreases linearly with the quality of the documents. The final accuracy detection test showed results where on average 87.3% of the objects were correctly recognized. The test results on the condition of the original document show that the system works optimally in document conditions over 1997 The final accuracy detection test showed results where on average 87.3% of the objects were correctly recognized. The test results on the condition of the original document show that the system works optimally in document conditions over 1997 The final accuracy detection test showed results where on average 87.3% of the objects were correctly recognized. The test results on the condition of the original document show that the system works optimally in document conditions over 1997.

Implementation of the Tensorflow Framework with the API Detection Object Method and Convolutional Neural Network on Land Documents in Electronic Services at the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency (11020)
Fajar Buyung Permadi, Dony Ferdiansyah, Yuli Ardianto Wibowo, Gama Eko Nurwanto and Wahyuni Wahyuni (Indonesia)

FIG e-Working Week 2021
Smart Surveyors for Land and Water Management - Challenges in a New Reality
Virtually in the Netherlands, 21–25 June 2021