
Using Deep Learning Tools in ArcGIS Pro 2.5

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Summary

The purpose of this project was to gain experience with the deep learning tools provided in ArcGIS Pro 2.5. My hope was to download a couple of examples and repeat the expected results. The first example I chose was a Keras Mask RCNN house footprint detection model and a target image for a neighborhood near Las Vegas, NV. I then tried to use the model with different imagery for Sacramento, CA and Coloma, CA. The second example was a PyTorch model for detecting swimming pools in NAIP imagery near Redlands, CA. This example failed with Python errors I could not resolve. I finally created four versions of a Single-Shot Detector model with training images of swimming pools near the American River College Campus in Sacramento, CA and used the models to detect swimming pools in the same image used for the training samples. Although each version of model did find swimming pools many were missed.