Towards Global AI/ML coverage

About Vricon
Vricon serves the global professional geospatial market with world-leading 3D geodata, 3D visualization solutions, and 3D image processing solutions. We're on a mission to build the Globe in 3D—a revolution in GEOINT tradecraft—that offers decision makers and analysts the entire world in highly accurate, immersive 3D. Vricon's customers are varied and come from the telecommunications, emergency response, defense, and intelligence communities.

We are searching for the best and brightest to join a culture that is open and flexible, inclusive and positive. We offer opportunities for growth and the ability to work with talented people who make a real difference for our clients.The majority of our research and development work is done in our Linköping office in Sweden, which employs about 40 engineers who work on cutting-edge technology to produce unparalleled, global, precise 3D geospatial data and software.

The Thesis
Digital surface models (DSM) are the main product of Vricon. A DSM describes the world as it's seen by the camera, in this case the onboard multi spectral camera on the satellite. Vricon uses deep learning to automatically classify the content of our 3D-models. Vricon classifies and detects objects in 2D-images combined with the DSM. In this thesis project, the student(s) will investigate methods for getting global coverage, e.g. should one global network be used or should it be several depending on geographic position? As an example, buildings in general don't look the same in middle-east as they do in the western world. As a basis for this, Vricon has annotated data from different parts of the globe. In the thesis different means of measuring the classification result should be considered, preferably existing ones, like precision, recall etc, but novel ones should also be investigated.

Qualifications
Master of Science student with an interest in AI and image registration techniques. The thesis should be implemented using Keras as API and Tensorflow as backend.

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