Data

The available Data are images of the two United States cities Jacksonville in Florida and Omaha in Nebraska taken from the US3D Dataset (\*"Semantic Stereo for Incidental Satellite Images Bosch\*"). Multiple images and semantic labeling of the same locations is given with the classification Data and three different types of satellite imagery: red green blue (RGB), visible and near infrared (VNIR) and digital surface model (DSM). \

The RGB images were taken by the WorldView-3 satellite of Digital Globe between 2014 and 2016. They have 1024 x 1024 pixels, each of which is described by three integer values ranging from 0 to 255 representing the intensity of either red, green or blue. \

Also collected by WorldView-3 were the VNIR images which contain eight channels for eight different bands of the spectrum with a ground sample distance of 1.3 meters. Those images were taken over the course of all twelve months making them fit to train models that can handle seasonal differences. The eight channels of the imagery are described by the following description of the WordView-3 satellite sensors. \

For each location we have an additional 1024 x 1024 DSM with a single channel that describes the height of each pixel with a greater number representing a higher distance to the ground. This data is provided by the Homeland Security Infrastructure Program and collected with Lidar technology and an aggregate nominal pulse spacing of 80 cm. \

Lastly there are semantic labeled pictures with one channel that has a number encoding one of five different classes. Those classes are vegetation, water, ground, building and clutter.

65 = clutter.

The area that is covered in a single image is ??? cubic meters and the images contain a lot of oblique view on buildings where you can see their fassades. often there is sunshine casting good shadows making the data ideal for training models thtat should detect shadows