

# Project 06: Rasterizer Function

## Abstract

A rasterizing tool creates a regular grid within the bounding box of a geometry collection and assigns a value to each cell depending on the presence of a geometry in that cell region. This information can either be a binary one (no-data / data) or based on the geometry attributes. For this Project, the first cell will create a randomized geometry list containing the input data. The attributes for each of the three geometries are stored in a separated attributes list.

## 1 Aim of the Project

The aim of this project was to create a function that generates a raster-file (.tif). This file displays the geometries from a shapfile, which was given as input to the function. The spatial resolution and name of the output-file can be defined as input to the function. For the case that no shapefile is available to run the function, a code to generate random geometries is provided.

## 2 Structure of the function

### 2.1 Load in the shapefile

To load in the shapefile, the fiona-package is used. Every geometry-object of the shapefile is stored in a GeometryCollection from the shapely-package.

### 2.2 Defining the bounding box

We create a buffer around the actual shape of the shapefile which will look prettier in the resulting image.

## 3 Issues

### 3.1 Solved

### 3.2 Unsolved