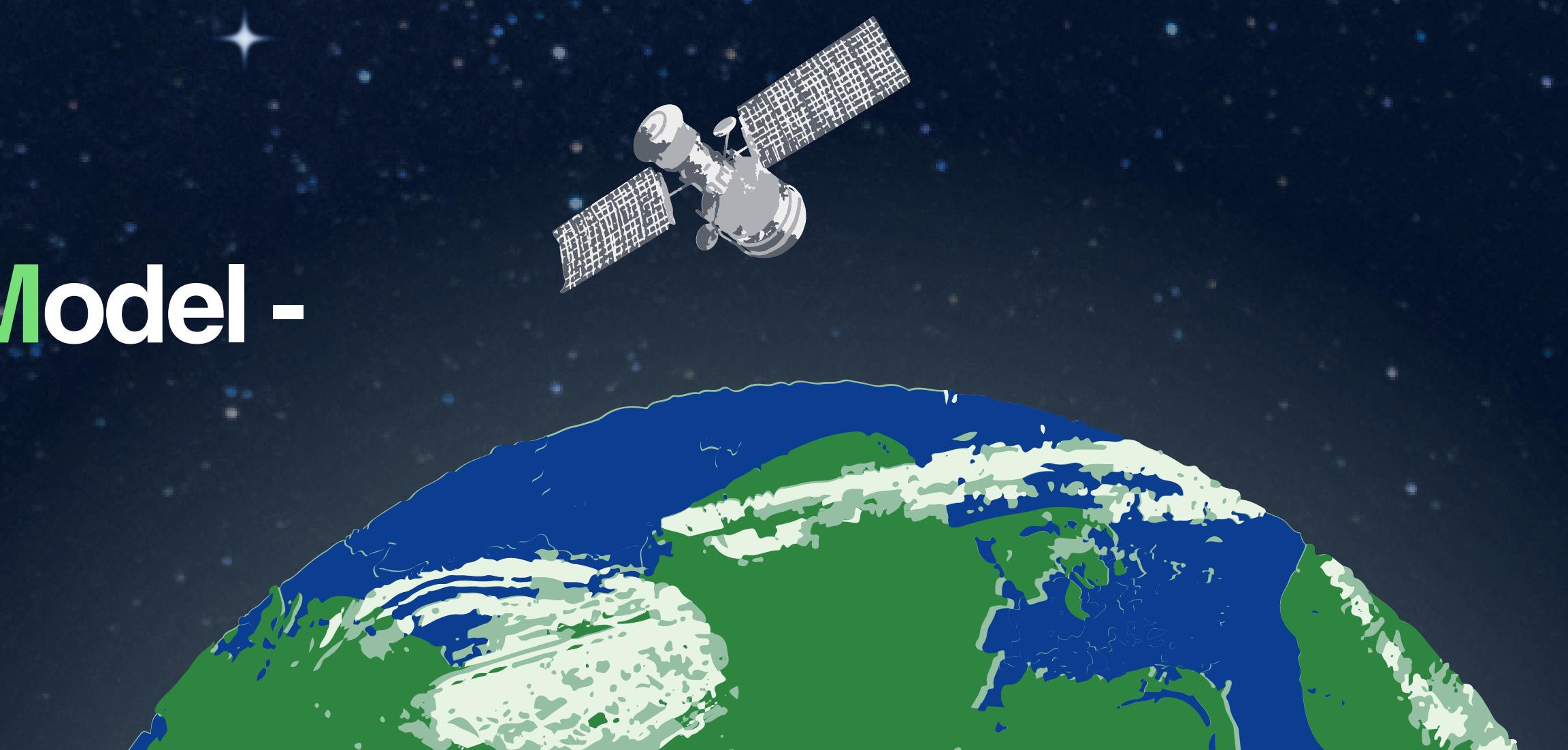




# Segment Anything Model - delineacija parcela

Valerijan Matvejev  
master računarske vizije

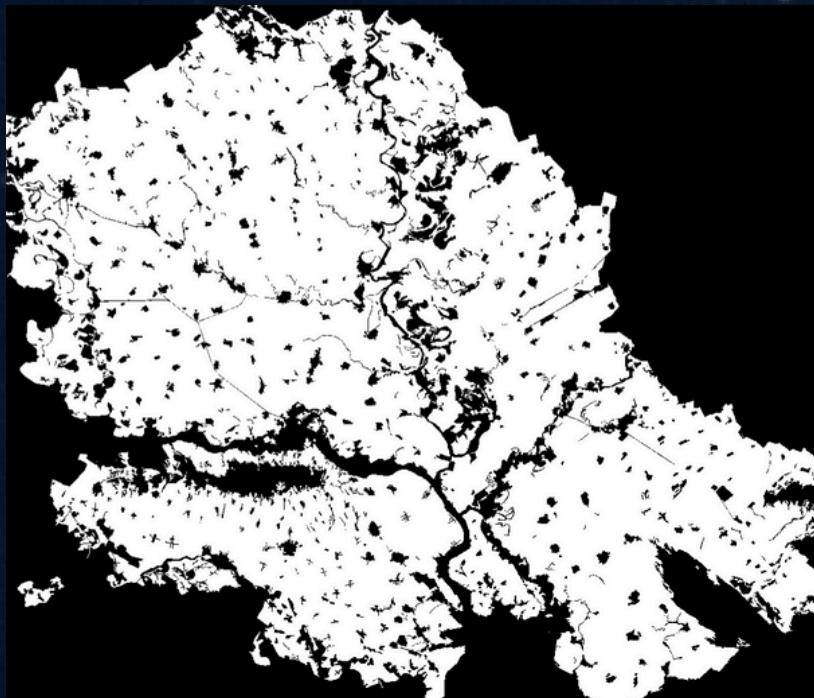




# Proces



satelitska RGB slika



maska parcela

```
with rasterio.open(mask_file) as src_mask:  
    mask_cropped, mask_cropped_transform = rio_mask(  
        src_mask, img_geo.geometry, crop=True, all_touched=True, nodata=0, filled=True  
    )  
  
    mask = mask_cropped[0] # Take the first (and only) layer  
    mask_transform = mask_cropped_transform
```

**rio\_mask()**

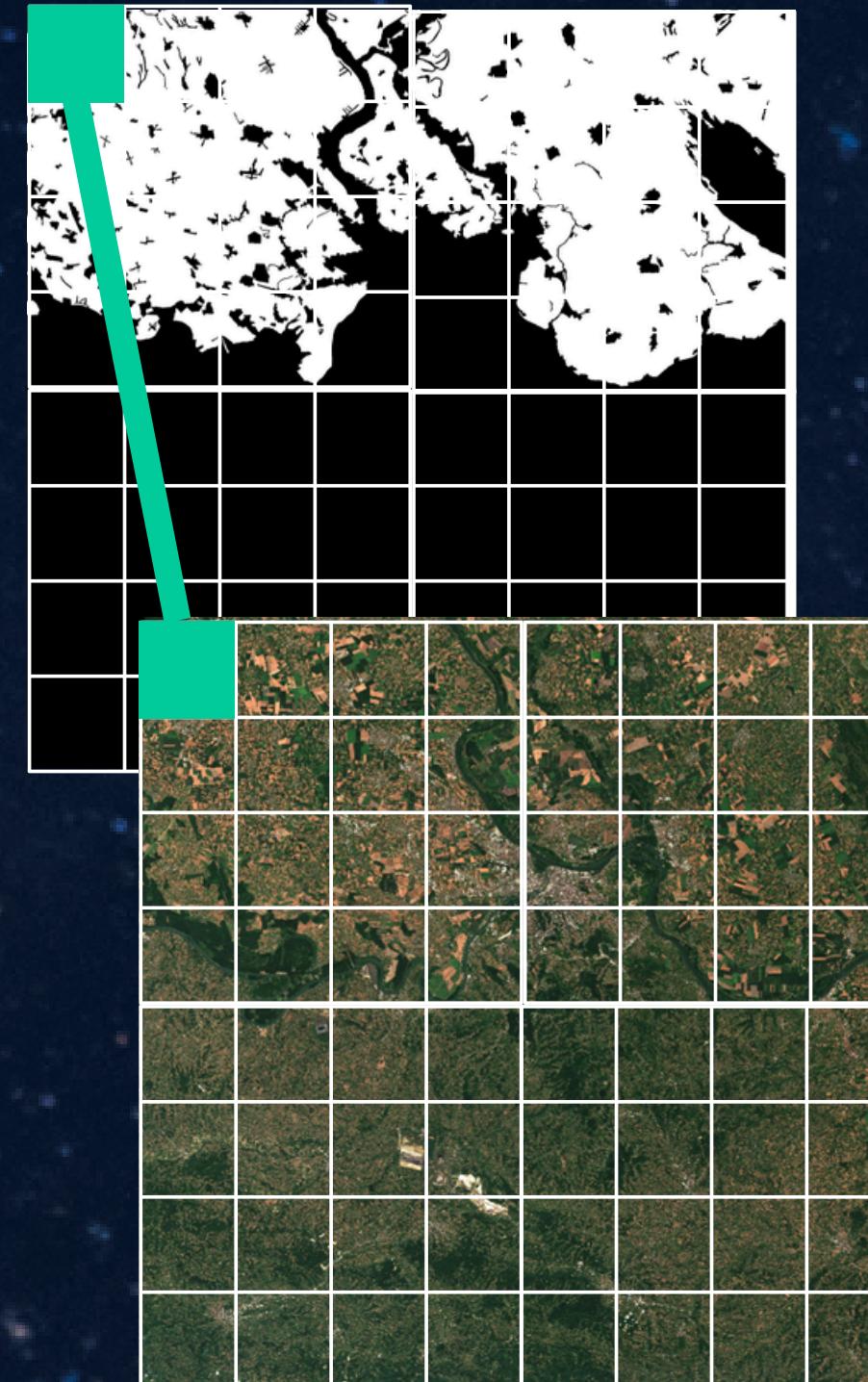


maska parcela (samo  
relevantni deo)

2



maska parcela (samo relevantni deo)



Podjela na pločice

OVERLAP ?

delić slike



SAM  
model



# Izlaz modela

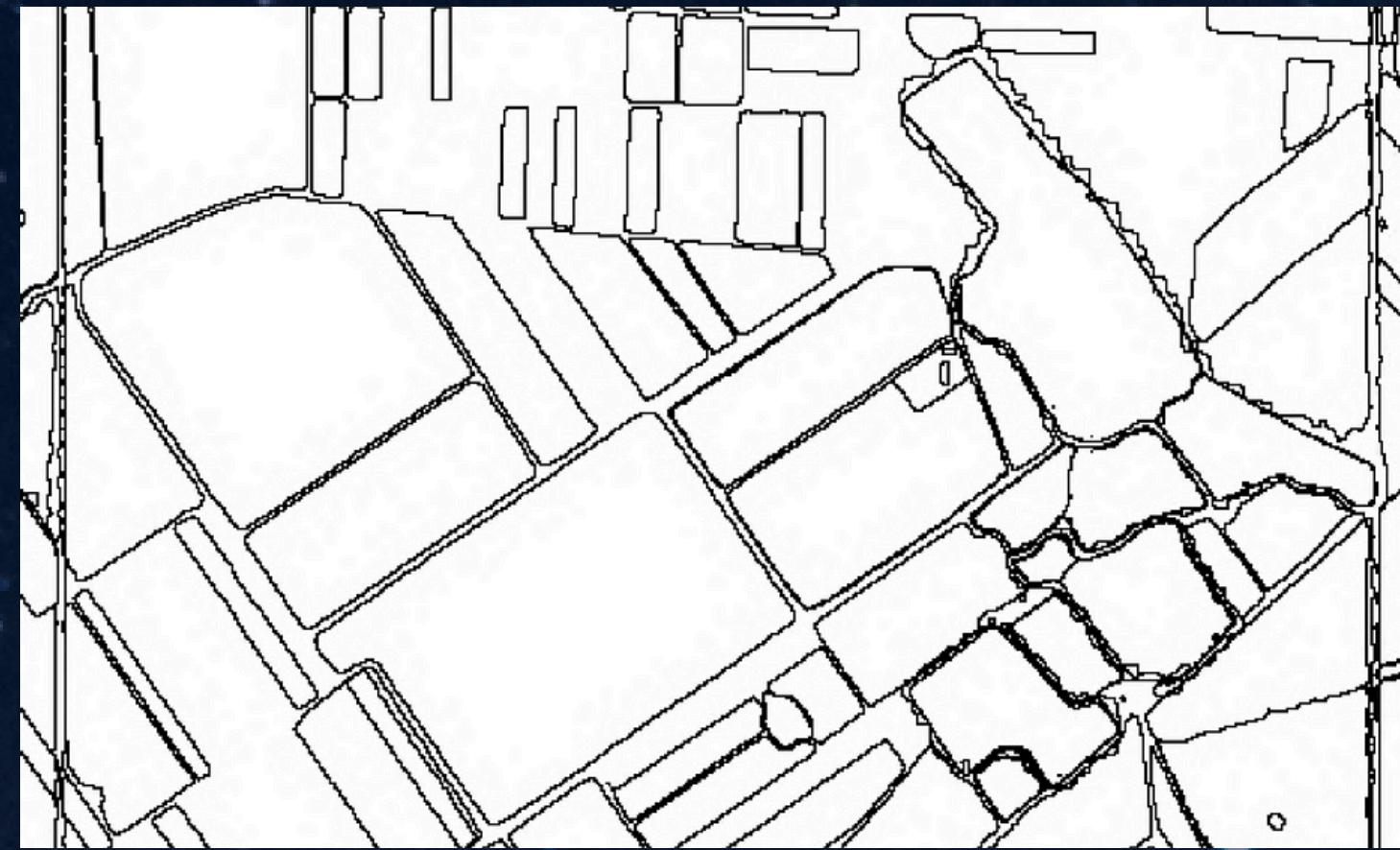
**SAM  
model**

**Sentinel-2  
(10m rezolucija)**  
-između tiles linije  
-lošija rezolucija

→ **binarna maska  
[0, 255] .tif**



**Planet  
(bolje, 3m rezolucija)**



→ **Konverzija u  
.SHP fajl  
(*shapes*  
funkcija iz  
*rasterio*)**

# Sentinel-2 parametri

```
    sam.generate(  
        source=tile_input_path,  
        output=tile_output_path,  
        batch=True, → da li batch po batch  
        batch_sample_size=SAM_batch_tuple,  
        foreground=False, → automatski režim  
        erosion_kernel=SAM_kernel,  
        mask_multiplier=255 → binarna 0 i 255  
        vrednosti  
        piksela  
    )
```

## SAM model

tile\_size = 512

tile\_overlap = 64

SAM\_batch\_tuple = (128, 128)

SAM\_kernel = (3, 3)

Parametri za vizuelno  
najbolju segmentaciju za  
**Sentinel-2 slike (10m rezolucija)**

(Bane Prejak, 19. mart approved)

# Planet parametri

## SAM model

tile\_size = 1536 ~ $(10/3 * 512 = 1707)$

tile\_overlap = 192 ~ $(10/3 * 64 = 213)$

SAM\_batch\_tuple = (1024, 1024)

SAM\_kernel = (0, 0) bez erozije

### Postprocessing:

- filterovati parcele male površine (izbačena erozija, area <3000)
- morfološko otvaranje (erozija, dilacija sa (3,3) kernelom)
- filterovati parcele male površine (area <3000)



# Segmentisana Sentinel slika



7

# Segmentisana Planet slika

