

svd

August 17, 2022

0.1 Prepare Data for SVD Analysis

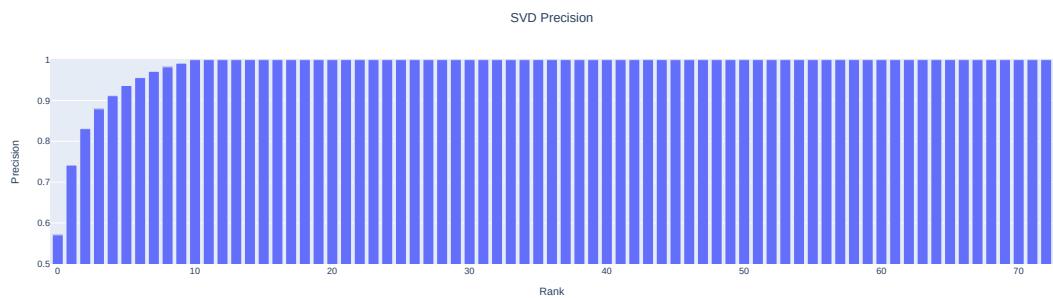
```
Creating folder svd_plots/columns-tempC-months-11_12_1_2
```

```
Creating svd file for columns-tempC-months-11_12_1_2
```

0.2 SVD

```
Loading svd file for columns-tempC-months-11_12_1_2
```

0.2.1 Precision of SVD Reconstruction

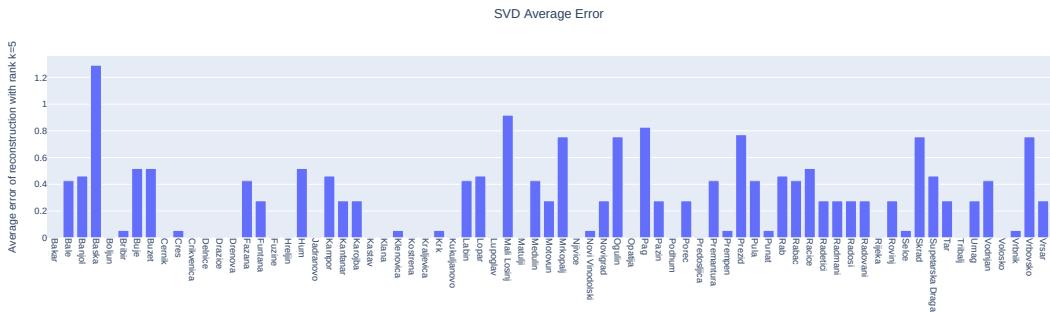


0.2.2 Full Reconstruction & Lower Rank Reconstruction

```
Diff: 1.7170415483460063e-14
```

```
Diff reconstruction: 0.26469466692042387
```

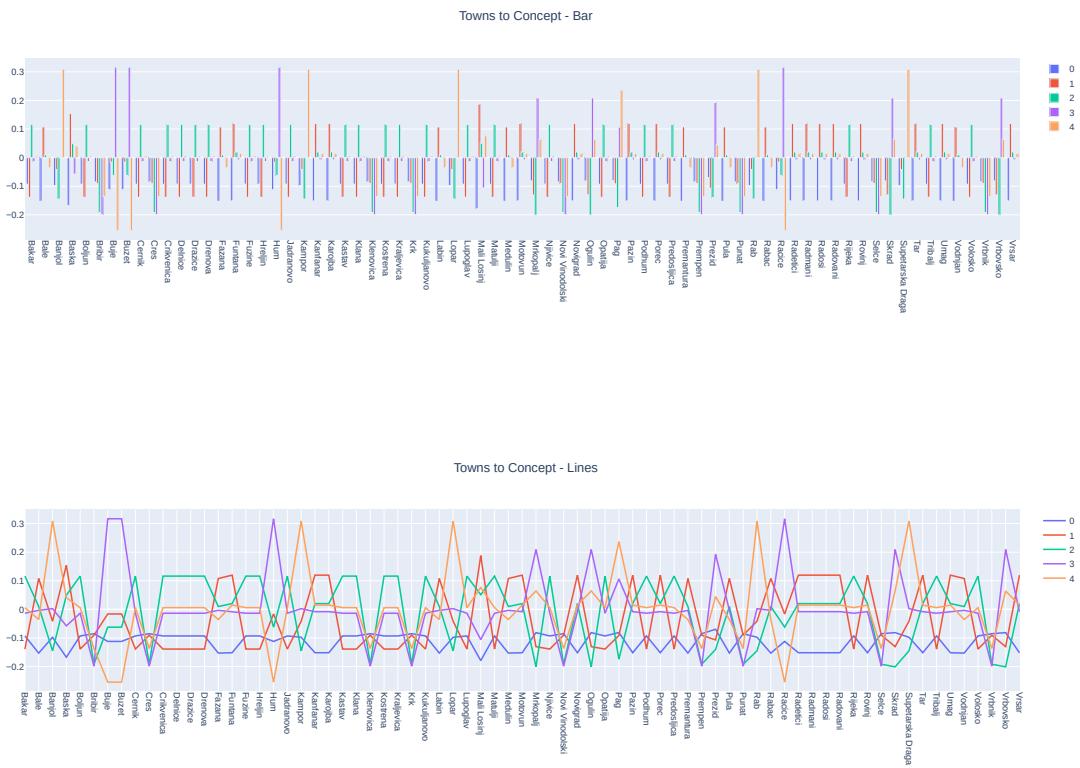
0.2.3 Average SVD Error



0.2.4 Dates to Concept - SVD_U



0.2.5 Towns to Concept - SVD_V

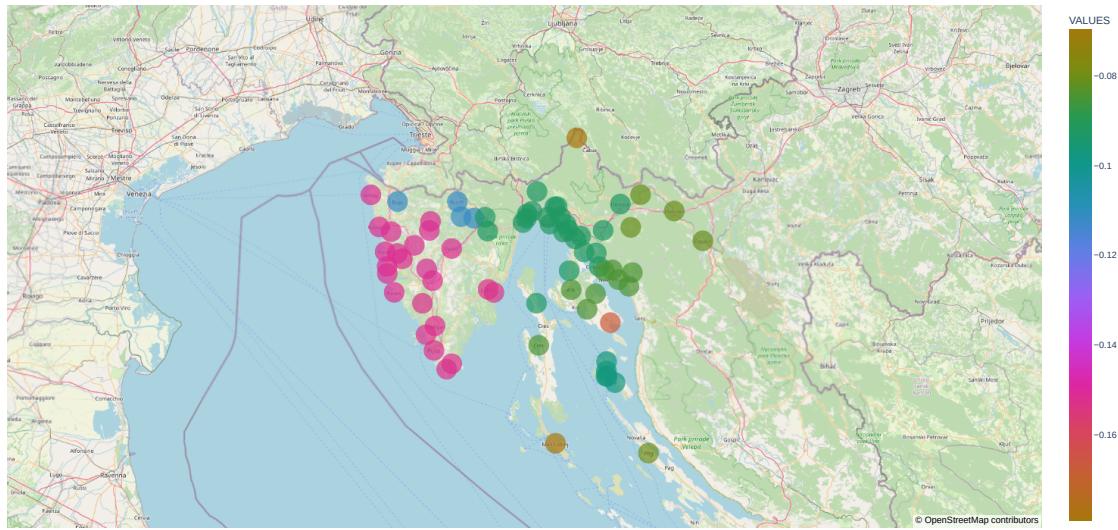


0.2.6 Singular Vector - SVD_S

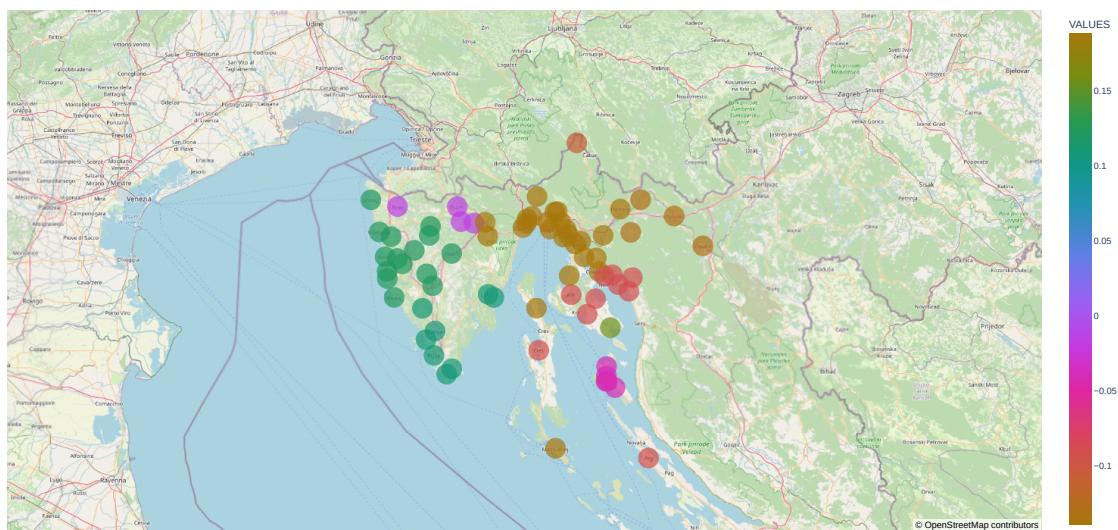
3.965747360498728e-13; 3.965747360498728e-13; 3.965747360498728e-13;
 2.470417002165695e-13'

0.2.7 SVD Maps

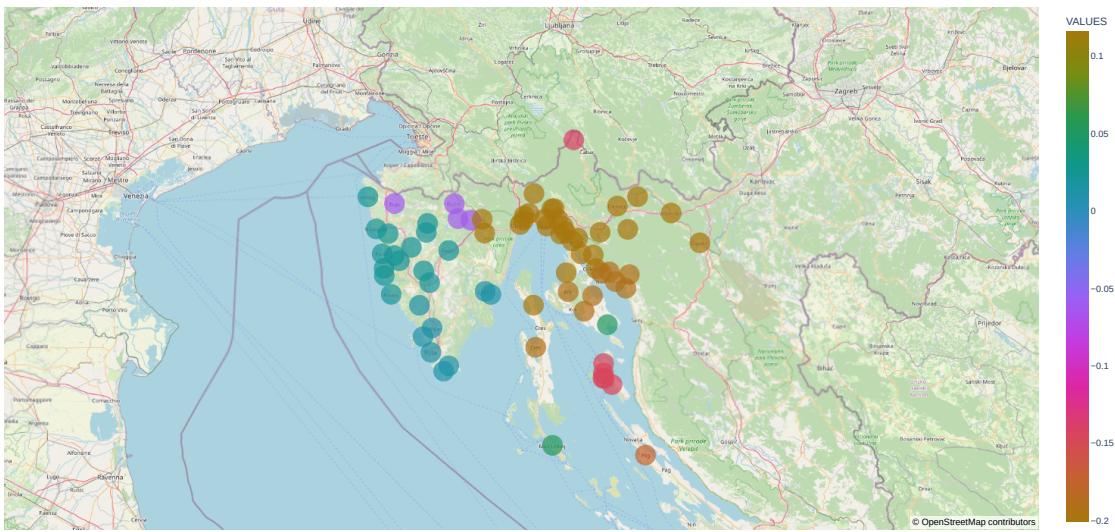
Ploting map for k = 0



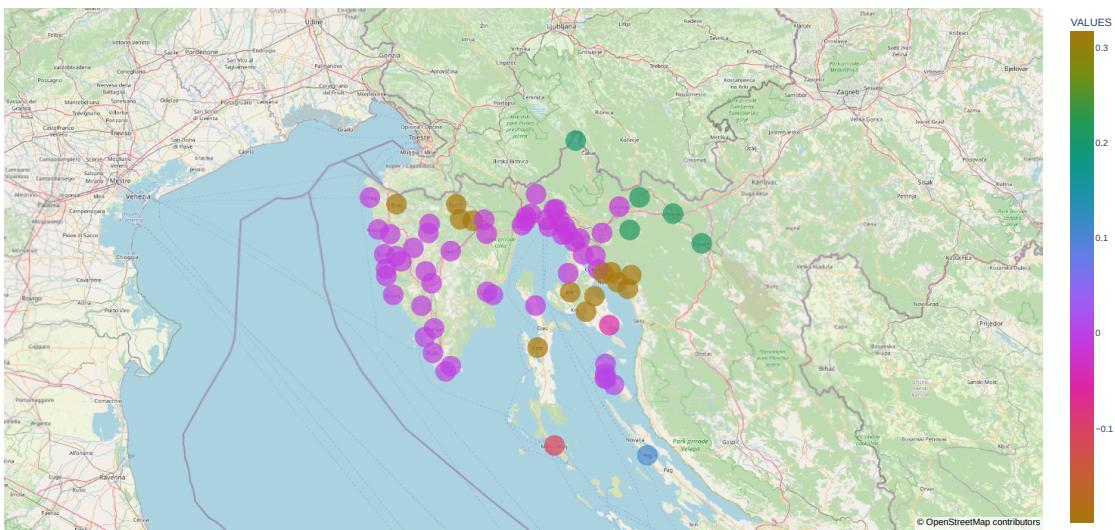
Ploting map for k = 1



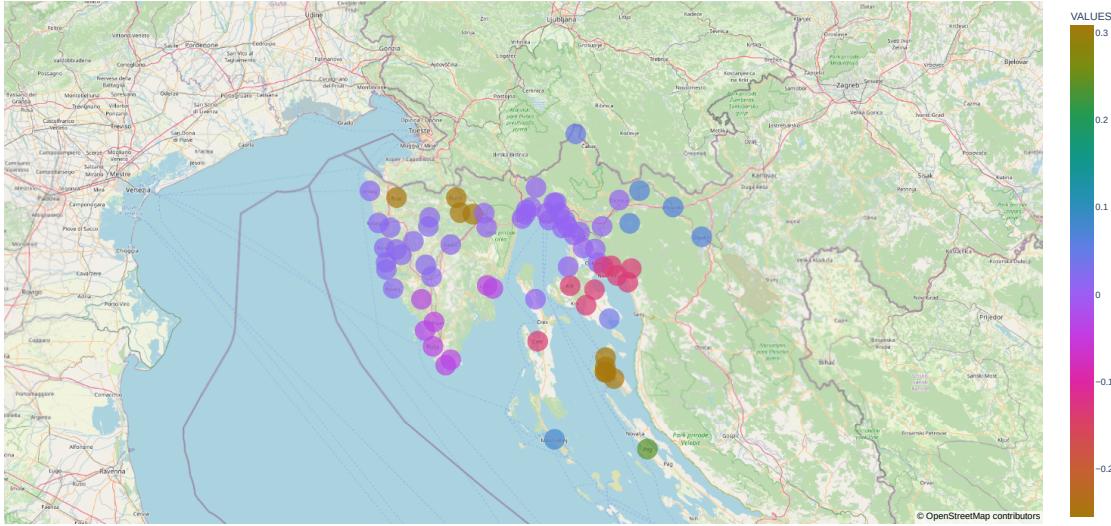
Plotting map for k = 2



Plotting map for k = 3



Plotting map for k = 4



1 Export to HTML

```
<IPython.core.display.Javascript object>

[NbConvertApp] Converting notebook svd.ipynb to HTML
Traceback (most recent call last):
  File "/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-
packages/nbformat/reader.py", line 18, in parse_json
    nb_dict = json.loads(s, **kwargs)
  File "/usr/lib/python3.9/json/__init__.py", line 346, in loads
    return _default_decoder.decode(s)
  File "/usr/lib/python3.9/json/decoder.py", line 337, in decode
    obj, end = self.raw_decode(s, idx=_w(s, 0).end())
  File "/usr/lib/python3.9/json/decoder.py", line 353, in raw_decode
    obj, end = self.scan_once(s, idx)
json.decoder.JSONDecodeError: Unterminated string starting at: line 108588
column 26 (char 14528210)
```

The above exception was the direct cause of the following exception:

```
Traceback (most recent call last):
  File "/home/HDD/00-Development/016-Diplomski/venv/bin/jupyter-nbconvert", line
8, in <module>
    sys.exit(main())
  File "/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-
packages/jupyter_core/application.py", line 269, in launch_instance
    return super().launch_instance(argv=argv, **kwargs)
  File "/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-
packages/traitlets/config/application.py", line 846, in launch_instance
```



```
[NbConvertApp] Making directory ./columns-tempC-months-11_12_1_2_svd_files
[NbConvertApp] Making directory ./columns-tempC-months-11_12_1_2_svd_files
[NbConvertApp] Making directory ./columns-tempC-months-11_12_1_2_svd_files
[NbConvertApp] Making directory ./columns-tempC-months-11_12_1_2_svd_files
[NbConvertApp] Writing 67926 bytes to notebook.tex
[NbConvertApp] Building PDF
[NbConvertApp] Running xelatex 3 times: ['xelatex', 'notebook.tex', '-quiet']
[NbConvertApp] Running bibtex 1 time: ['bibtex', 'notebook']
[NbConvertApp] WARNING | bibtex had problems, most likely because there were no
citations
[NbConvertApp] PDF successfully created
[NbConvertApp] Writing 7124277 bytes to output/columns-tempC-
months-11_12_1_2_svd.pdf
[NbConvertApp] Converting notebook svd.ipynb to HTML
[NbConvertApp] Writing 6092516 bytes to output/columns-tempC-
months-11_12_1_2_svd_no_code.html
```