

svd

August 17, 2022

0.1 Prepare Data for SVD Analysis

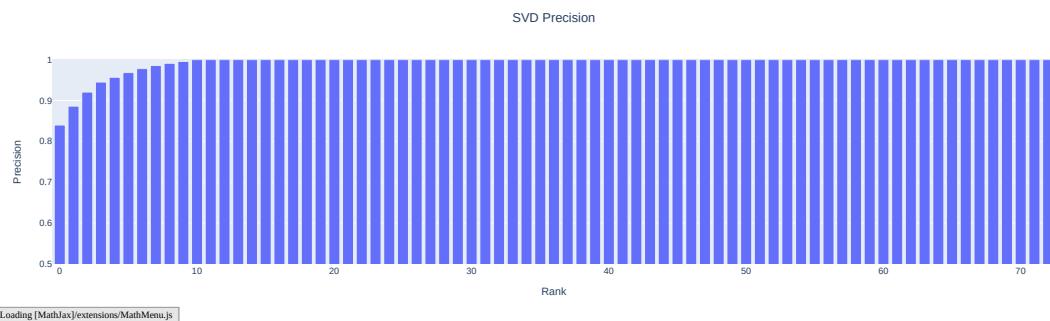
Creating folder svd_plots/columns-tempC-months-6_7_8_9

Creating svd file for columns-tempC-months-6_7_8_9

0.2 SVD

Loading svd file for columns-tempC-months-6_7_8_9

0.2.1 Precision of SVD Reconstruction

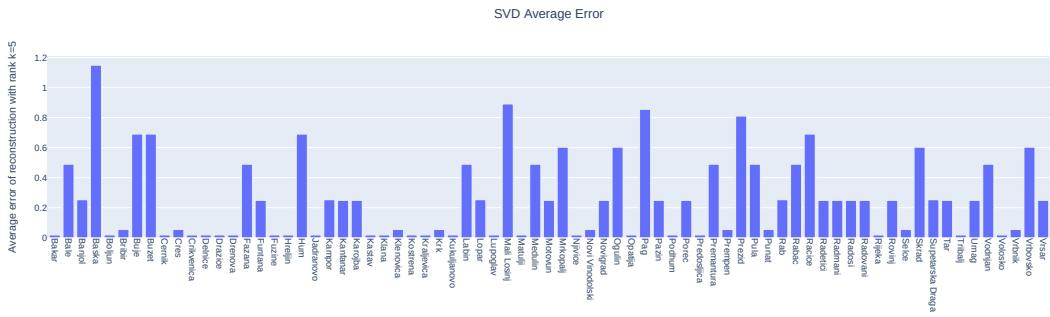


0.2.2 Full Reconstruction & Lower Rank Reconstruction

Diff: 4.188998126592169e-14

Diff reconstruction: 0.25611653474570456

0.2.3 Average SVD Error



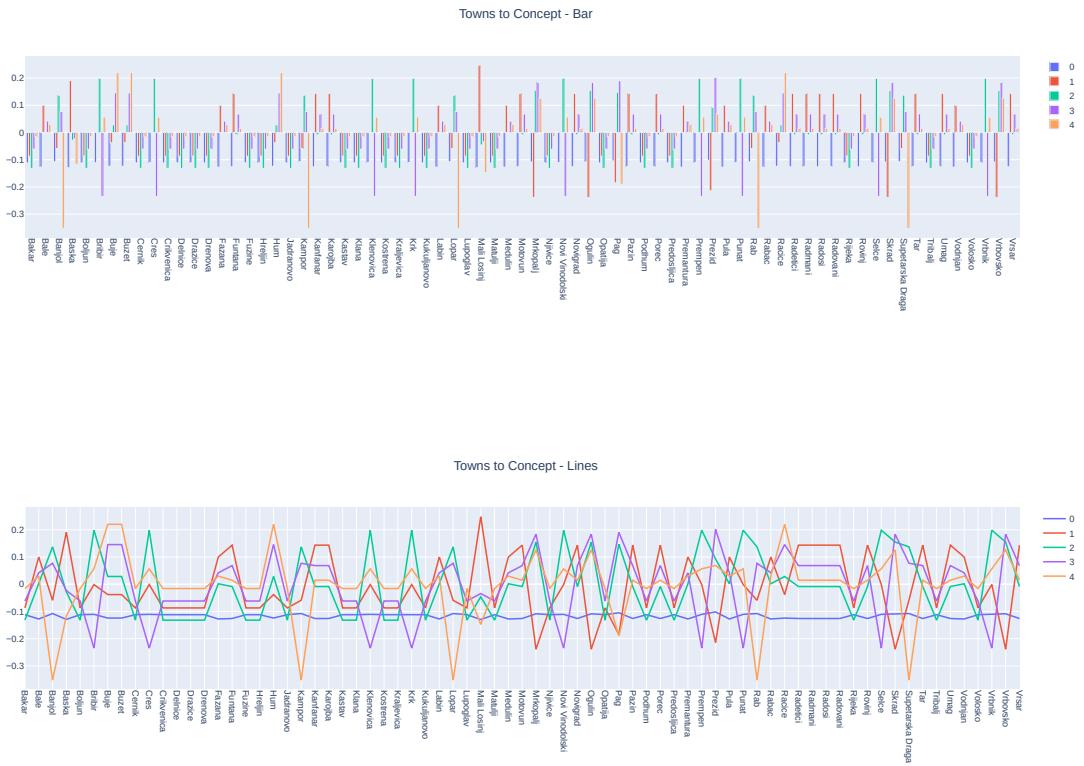
0.2.4 Dates to Concept - SVD_U



Dates to Concept - Plotted as Continuous Function



0.2.5 Towns to Concept - SVD_V



0.2.6 Singular Vector - SVD_S

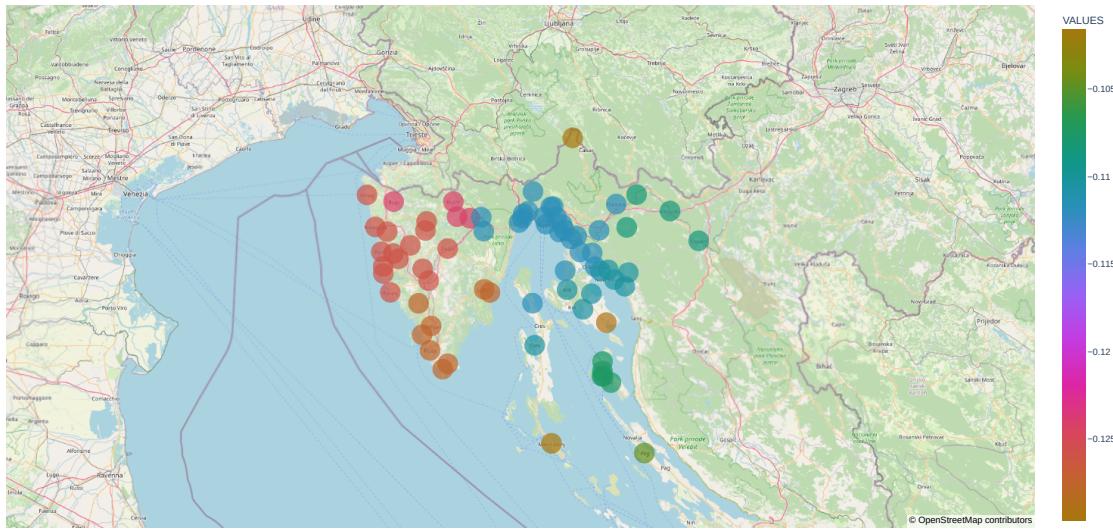
```

1.2802755263133266e-12; 1.2802755263133266e-12; 1.2802755263133266e-12;
1.2802755263133266e-12

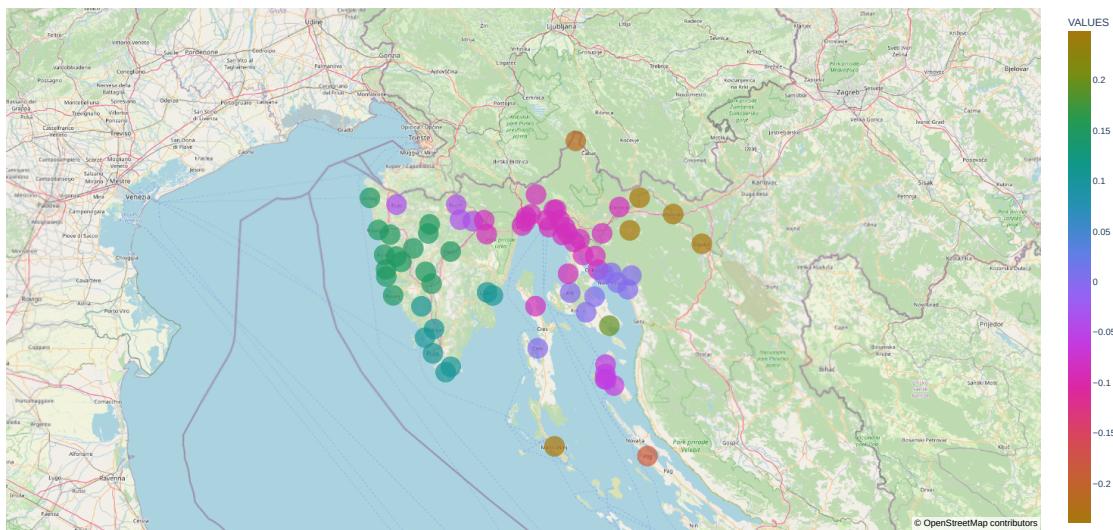
```

0.2.7 SVD Maps

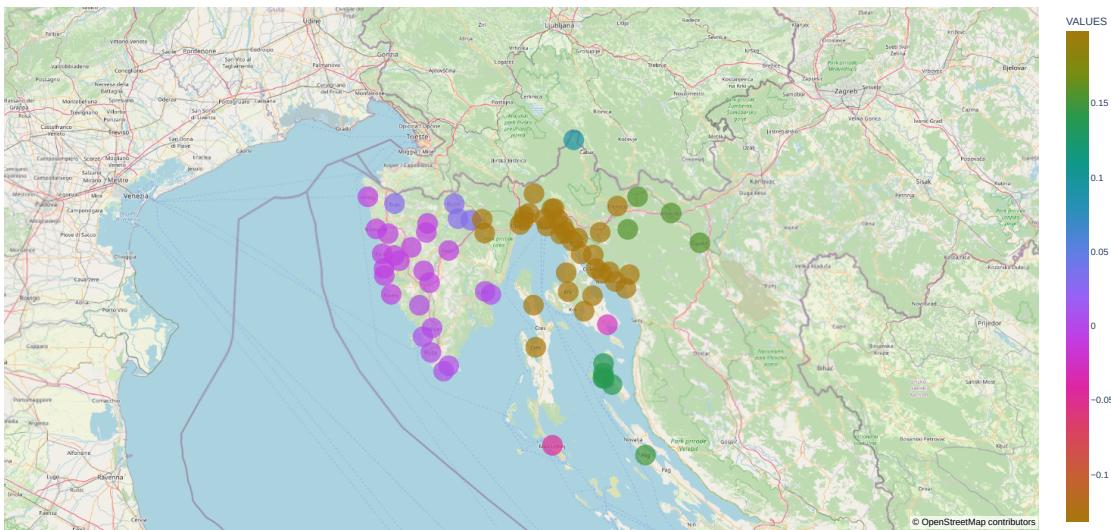
Plotting map for k = 0



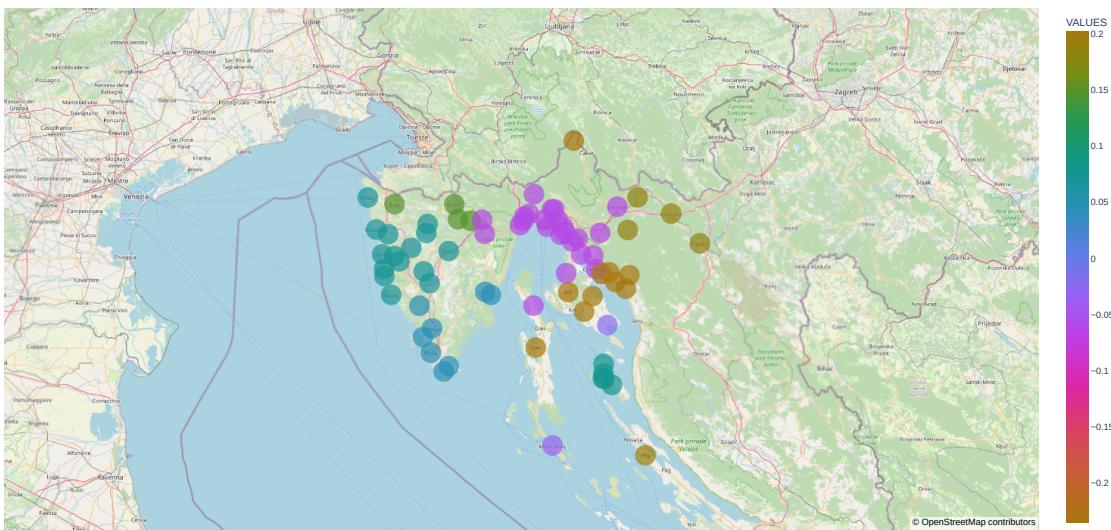
Plotting map for k = 1



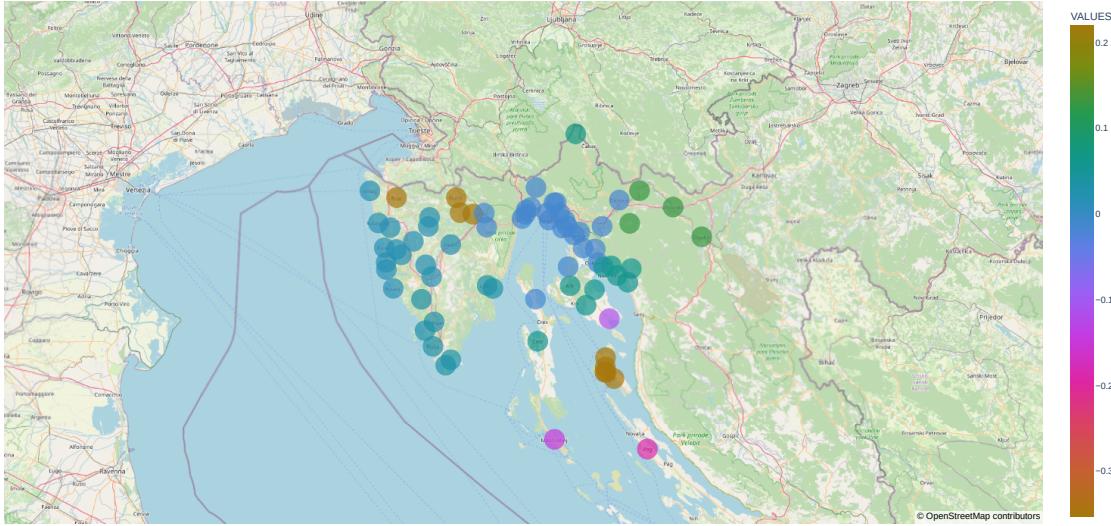
Plotting map for k = 2



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
[NbConvertApp] Writing 6176866 bytes to output/columns-tempC-
months-6_7_8_9_svd.html
[NbConvertApp] Converting notebook svd.ipynb to pdf
/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-
packages/nbconvert/filters/datatypefilter.py:41: UserWarning: Your element with
mimetype(s) dict_keys(['text/html']) is not able to be represented.
    warn(
[NbConvertApp] Support files will be in columns-tempC-months-6_7_8_9_svd_files/
[NbConvertApp] Making directory ./columns-tempC-months-6_7_8_9_svd_files
[NbConvertApp] Writing 64712 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
```

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citations
[NbConvertApp] PDF successfully created
[NbConvertApp] Writing 7085918 bytes to output/columns-tempC-
months-6_7_8_9_svd.pdf
[NbConvertApp] Converting notebook svd.ipynb to HTML
[NbConvertApp] Writing 6116595 bytes to output/columns-tempC-
months-6_7_8_9_svd_no_code.html
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