

svd

August 14, 2022

0.1 Prepare Data for SVD Analysis

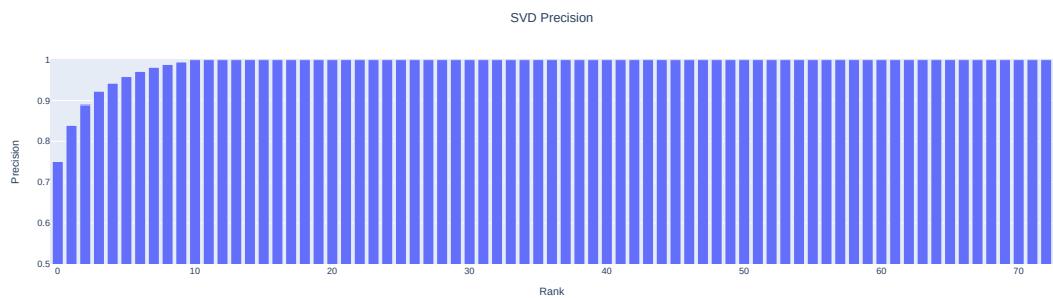
Creating folder svd_plots/columns-tempC

Creating svd file for columns-tempC

0.2 SVD

Loading svd file for columns-tempC

0.2.1 Precision of SVD Reconstruction

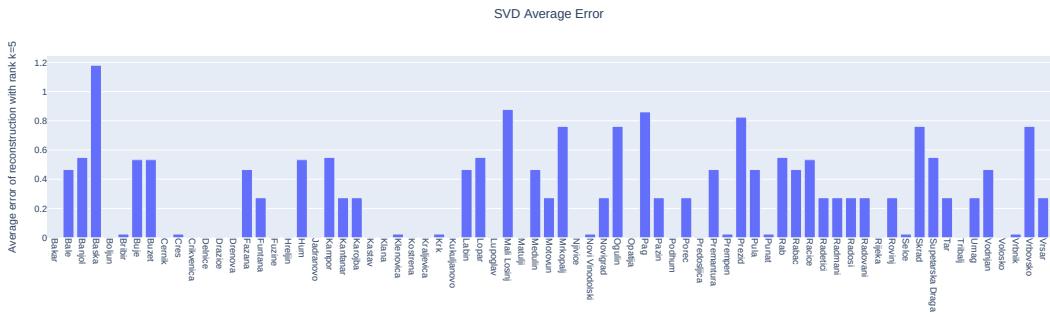


0.2.2 Full Reconstruction & Lower Rank Reconstruction

Diff: 1.8466352624188308e-14

Diff reconstruction: 0.2720725151266821

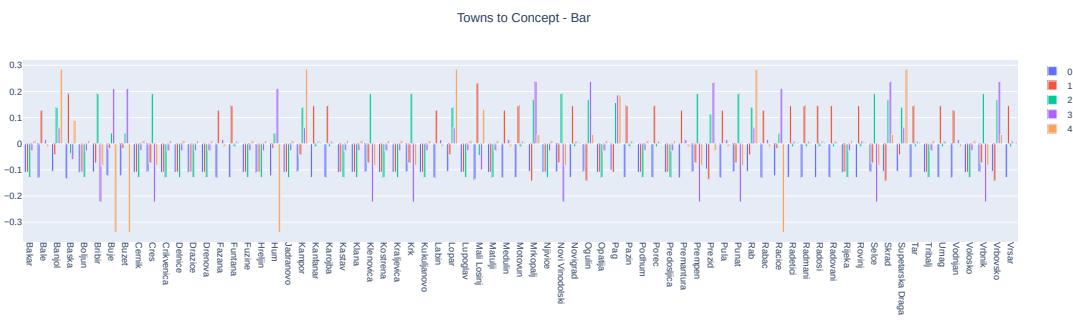
0.2.3 Average SVD Error

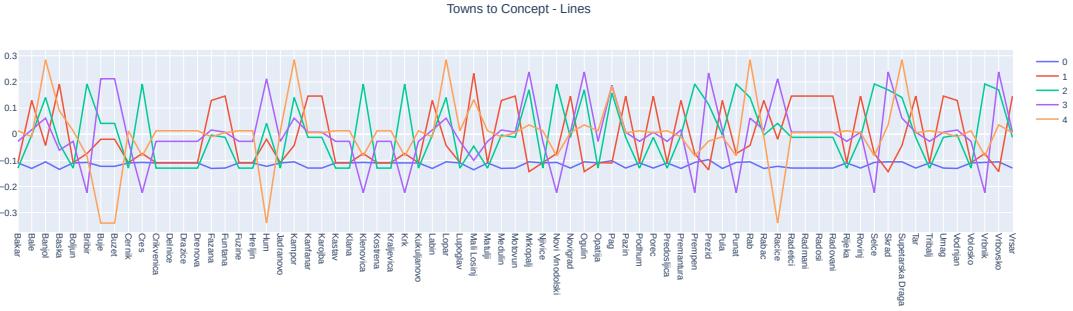


0.2.4 Dates to Concept - SVD_U



0.2.5 Towns to Concept - SVD_V

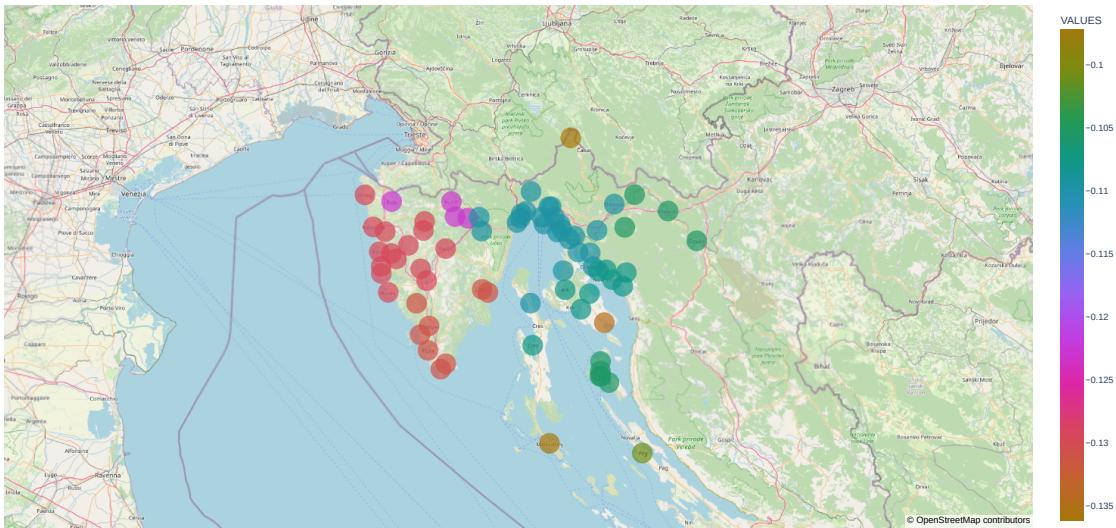




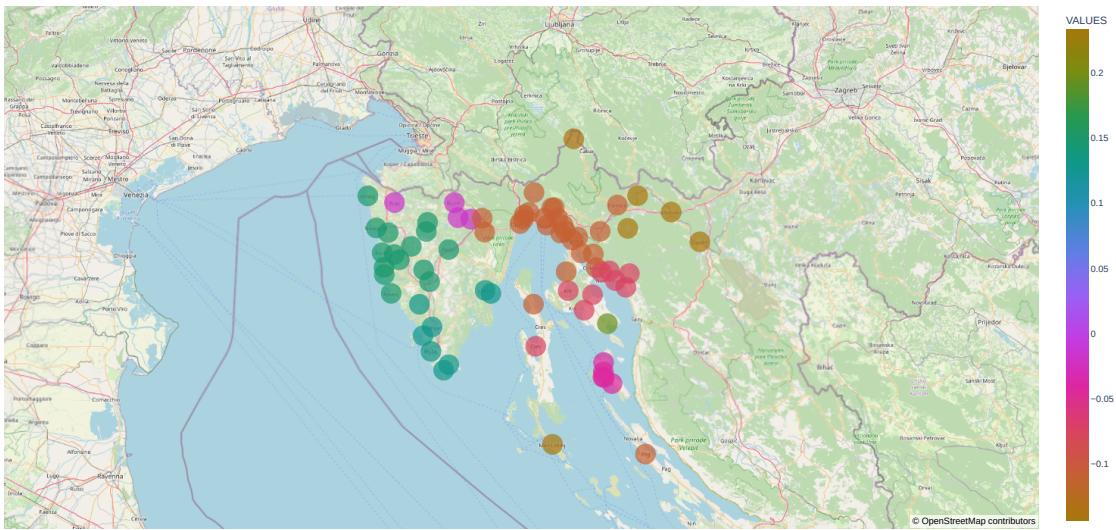
0.2.6 Singular Vector - SVD_S

0.2.7 SVD Maps

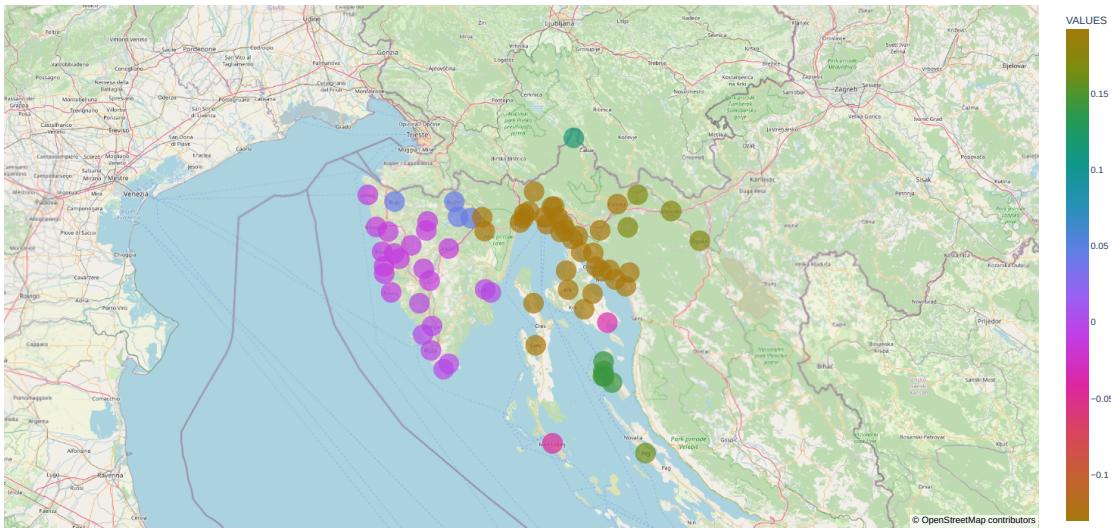
Ploting map for k = 0



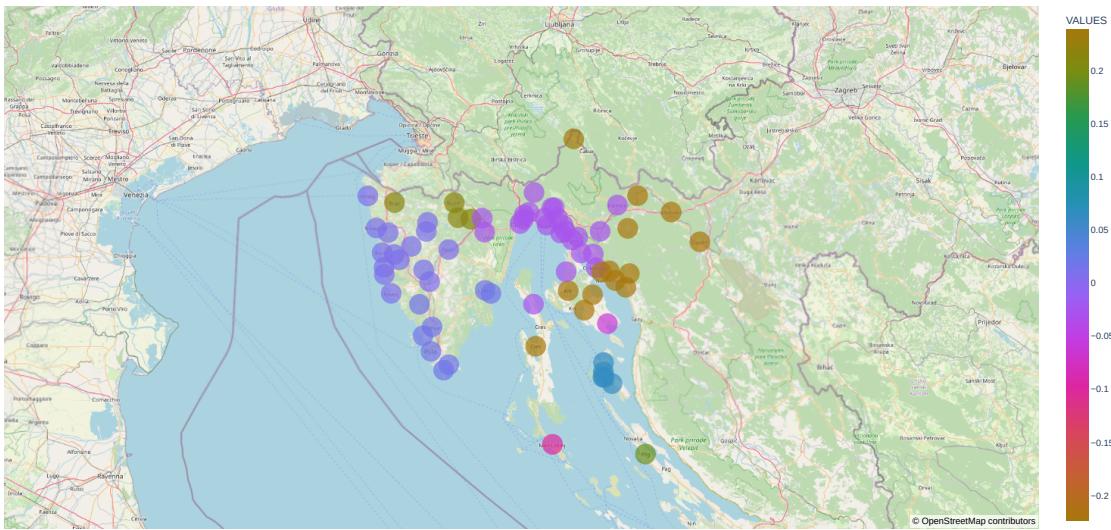
Plotting map for $k = 1$



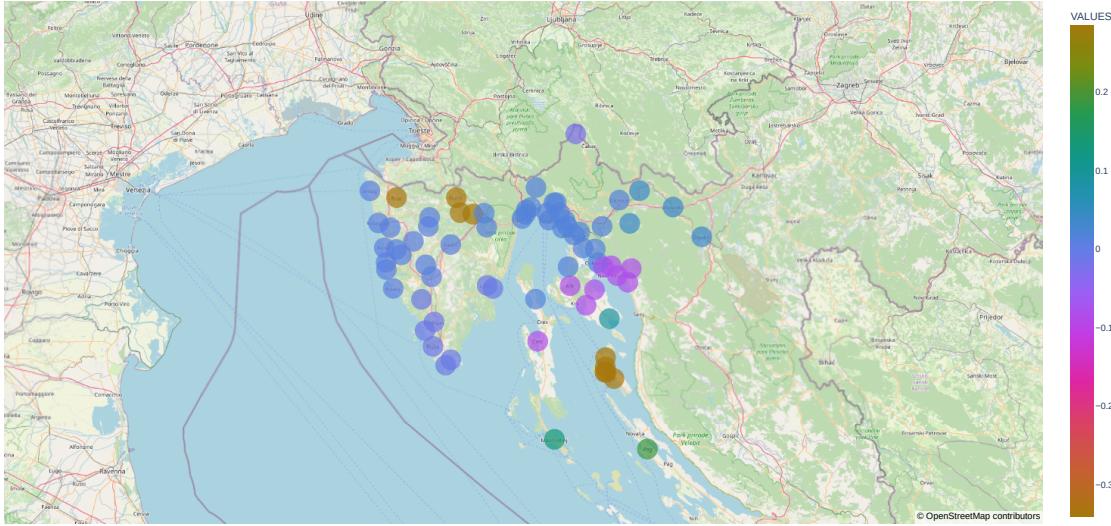
Plotting map for $k = 2$



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 7660026 bytes to output/columns-tempC_svd.html
[NbConvertApp] Converting notebook svd.ipynb to pdf
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 336 column 8
(char 1315917)
```

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
    app.start()
File "/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-packages/nbconvert(nbconvertapp.py", line 414, in start
    self.convert_notebooks()
File "/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-packages/nbconvert(nbconvertapp.py", line 588, in convert_notebooks
    self.convert_single_notebook(notebook_filename)
File "/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-packages/nbconvert(nbconvertapp.py", line 551, in convert_single_notebook
    output, resources = self.export_single_notebook()
File "/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-packages/nbconvert(nbconvertapp.py", line 479, in export_single_notebook
    output, resources = self.exporter.from_filename(
        return self.from_file(f, resources=resources, **kw)
File "/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-packages/nbconvert/exporters/exporter.py", line 189, in from_filename
    nbformat.read(file_stream, as_version=4), resources=resources, **kw
File "/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-packages/nbformat/_init_.py", line 170, in read
    return reads(buf, as_version, capture_validation_error, **kwargs)
File "/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-packages/nbformat/_init_.py", line 88, in reads
    nb = reader.reads(s, **kwargs)
File "/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-packages/nbformat	reader.py", line 72, in reads
    nb_dict = parse_json(s, **kwargs)
File "/home/HDD/00-Development/016-Diplomski/venv/lib/python3.9/site-packages/nbformat	reader.py", line 21, in parse_json
    raise NotJSONError(("Notebook does not appear to be JSON: %r" % s)[:77] +
"...) from e
nbformat.reader.NotJSONError: Notebook does not appear to be JSON: '{\n "cells": [\n   {\n     "cell_type": "c..."
```