Visual Analytics Macroscope VISAM

The Birth of History - Assessing the Role of Fiction in the Historical Paradigm

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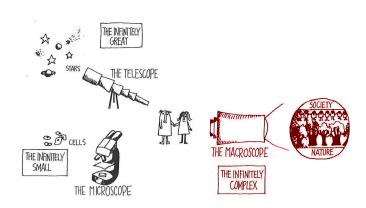


```
class Person(object):
 2
        def __init__(self, name):
            self.name = name
        def savs hello(self):
 5
            print 'Hello, my name is', self.name
 6
7
    class Researcher (Person):
 8
        def __init__(self, title=None, areas=None, **kwargs):
 9
            super(Researcher, self). init (**kwargs)
10
            self.title = title
11
            self.areas = areas
12
13
    KLN = Researcher(name = 'Kristoffer L Nielbo', \
14
            title = 'Associate professor', \
15
            areas = ['Humanities Computing', 'Culture Analytics', 'eScience'])
16
17
    KLN.says_hello()
```



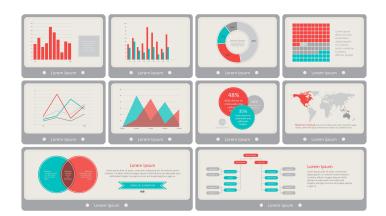


VISAM Vision



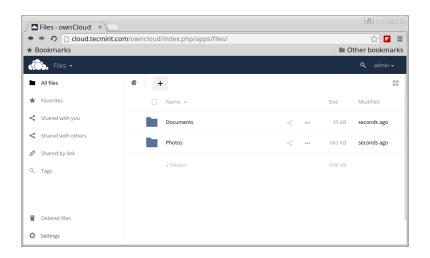


VISAM|Front end



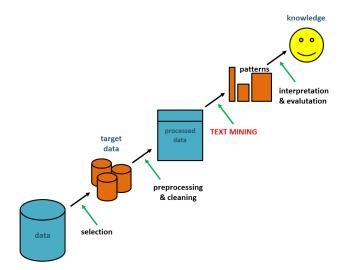


VISAM|Back end





VISAM|Pipeline





VISAM Methods

Core

- time series analysis evolution of cultural concepts during 1550-1650
- long-range dependencies what concepts prevail throughout the period
- novelty detection what concepts show disruptive dynamics during the period

Seedlist Query

- domain experts (you) generate seedlists containing important keywords
- seedlists are expanded to synsets using dictionaries and algorithmic methods

Word-level Analysis

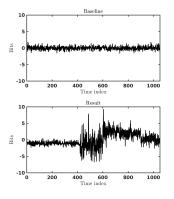
- Dynamic Bernoulli Embeddings to create dense vector representations of words
- capture semantic properties as they evolve over time

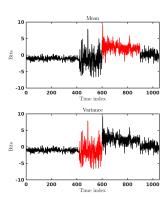
Document-level Analysis

- Guided Latent Dirichlet Allocation ("structured topic model") to create dense vector representations of documents
- measure document to document divergence to build topicality evolution



Novelty Detection Simulation

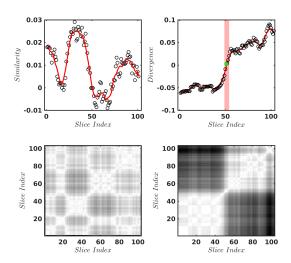








Novelty Detection LDA







THANK YOU

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