

Outline of a Human Informatics

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Outline

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Informatics

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① Human Informatics

A need for Human Informatics
SDU eScience Center
SDU DataKube

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② Recent projects

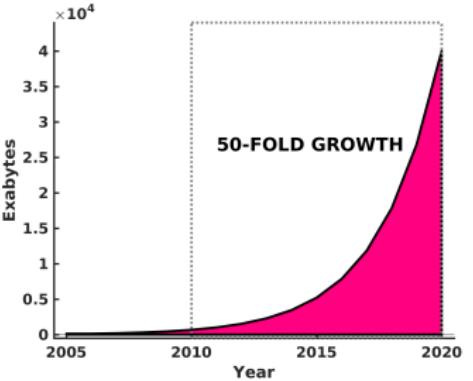
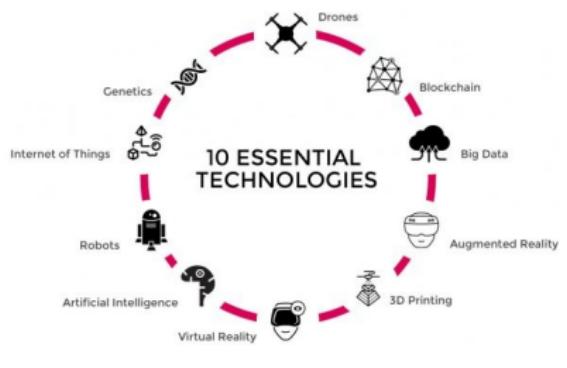
Dating Documents
Effect of advertisements
Literature and affective computing
Dynamic author profiling

Recent projects
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the data deluge is transforming knowledge discovery and understanding in every domain of human inquiry

a large part of these data are soft and unstructured ⇒ to get value from these data, humanities (and social sciences) must utilize automation

human informatics - automatic information processing in the humanities

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eScience Infrastructure at SDU

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14.016 cores, 392 slim nodes, 64 fat nodes, 72 GPU nodes with two Nvidia K40/node

the center is expanding its userbase to include more SSH relevant areas and competencies, e.g., DL, NLP, computer vision

cloud offers a fully GDPR compliant environment for cloud computing with a cumulative codebase

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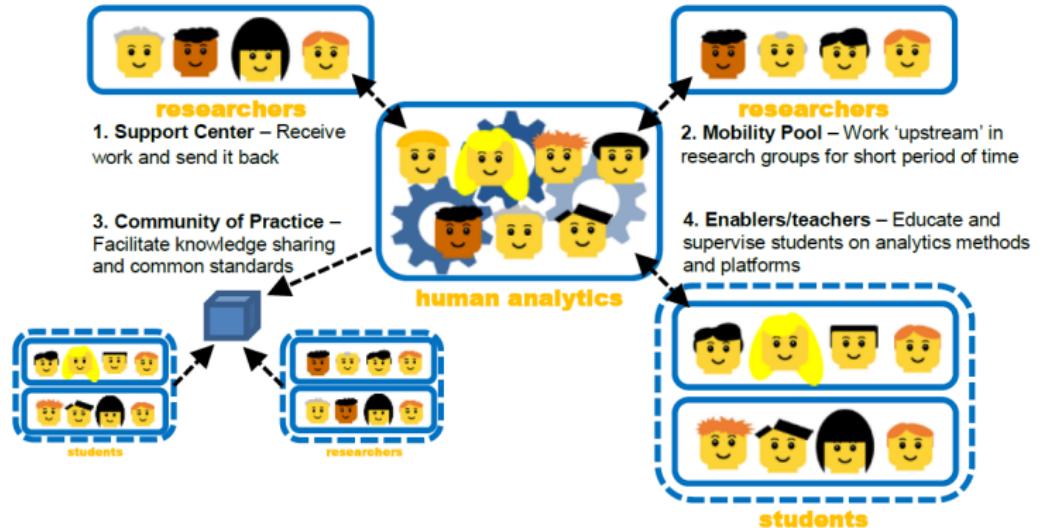
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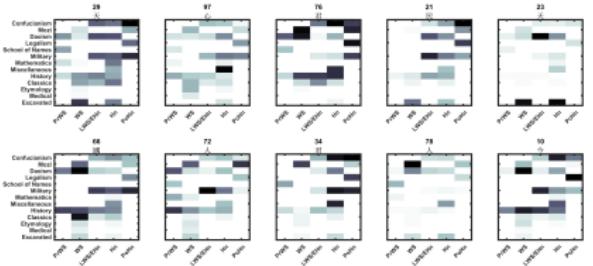
research support through collaboration (pilot, shared funding, shared authorship)

recently turned to tool and competency development - software development in the humanities

Dating Classical Chinese Documents

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Thematic structure in CTEXT corpus conditioned on period and genre

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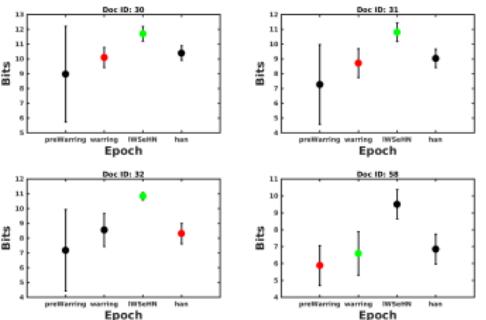
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Dating Documents

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Average distance from each period, **classical period**, and **alternate period**

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affective computing

Dynamic author
profiling

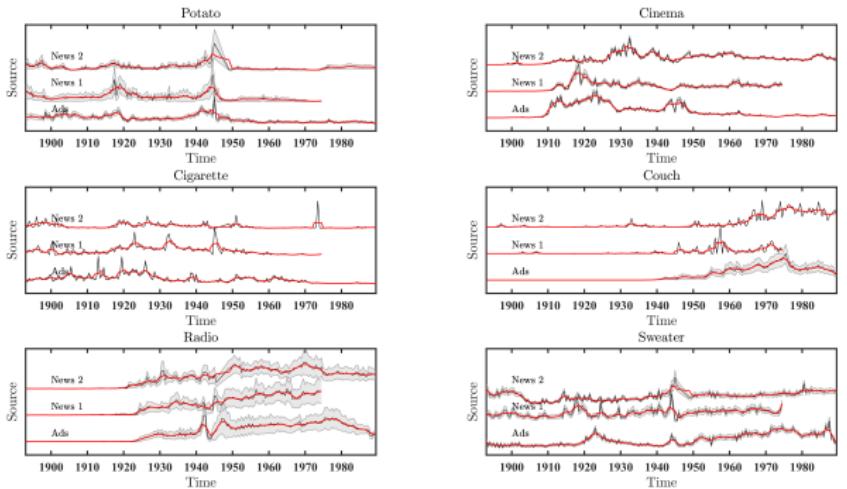


Figure 1: Articles and advertisements from *De Tijd* (1890-1974) and *De Telegraaf* 1893-1989, $N \simeq 30E^6$.

Shaping: *advertisements* \rightarrow *articles*

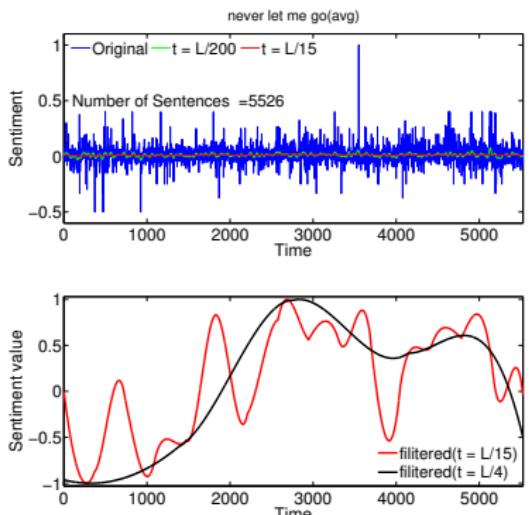
Reflecting: *articles* \rightarrow *advertisements*

Complex: *advertisements* \leftrightarrow *articles*

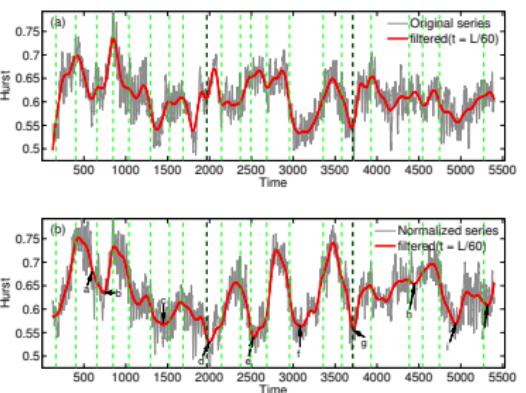
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Story arc of Kazuo Ishiguro's 2005 novel
Never let me go



Evolution of the Hurst parameter under 256 window size of original and normalized sentiment time series

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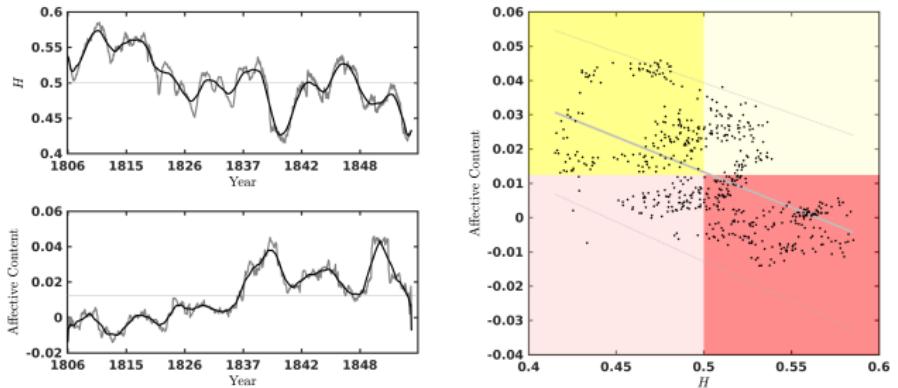
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Combining persistent entropic trends with sentiment analysis and causal modeling, we can study "the tormented artist" phenomena in intellectual history.

Time period	Age of onset	$H(X)$	Behavior	Profile
1806-1826	23	$H > 0.5$	<i>persistent</i>	theoretician
1826-1839	43	$H \approx 0.5$	<i>short memory</i>	pragmatic
1839-1845	56	$H < 0.5$	<i>anti-persistent</i>	breakthrough
1845-1848	62	$H \approx 0.5$	<i>short memory</i>	disease
1849-1872	65	$H < 0.5$	<i>anti-persistent</i>	politician

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THANK YOU

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slides: http://knielbo.github.io/files/kln_hinformatics.pdf

& credits to

Max R. Echardt and Katrine F. Baunvig, datacube, University of Southern Denmark, DK

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