

CS448B Final Project Presentation

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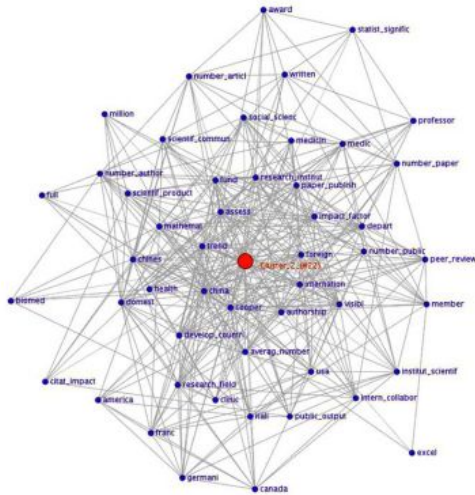
Project Overview - Science Research Visualization

- Problem: How can you visualize the development of scientific research trends?
- Visualization of research trends and topics is challenging
 - Lot's of papers are published (20 million + records in Pubmed alone)
 - Papers are connected through citations, however most citations lead to a couple of fundamental papers
 - Metadata is often limited to keywords chosen by author

Literature Review

Combining full text and bibliometric information in mapping scientific disciplines

Patrick Glenisson ^{a,c,*}, Wolfgang Glänzel ^{a,b}, Frizo Janssens ^c, Bart De Moor ^c



Citeology: Visualizing Paper Genealogy

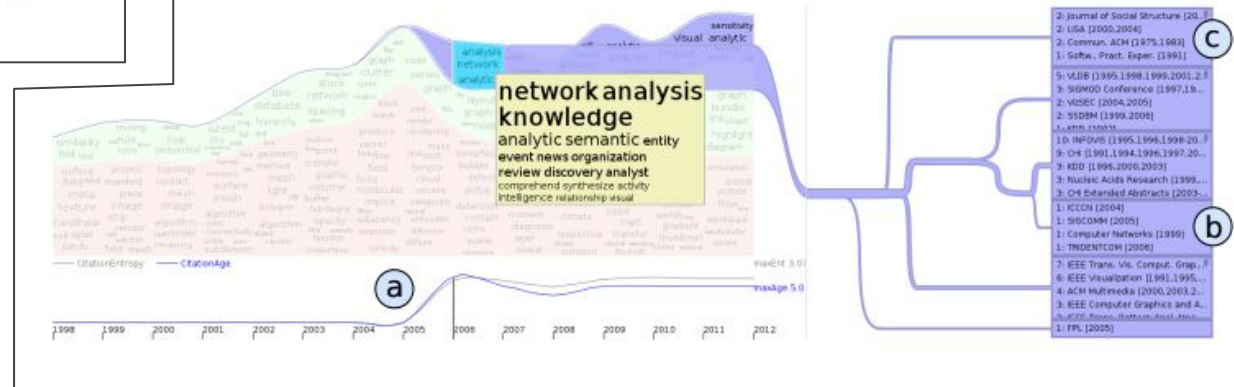
<http://www.autodeskresearch.com/projects/citeology>



Figure 8. Longest most direct path between two CHI papers. (18 generations)

CiteRivers: Visual Analytics of Citation Patterns

Florian Heimerl, Qi Han, Steffen Koch *Member, IEEE*, Thomas Ertl *Member, IEEE*

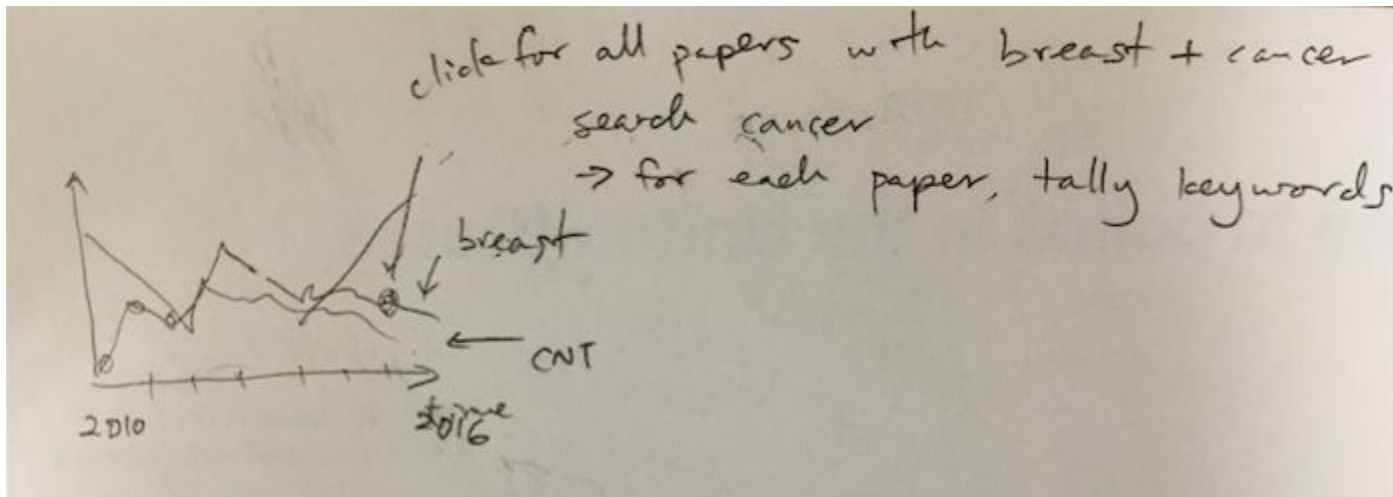


- Visualize topic development according to keyword popularity

Current Progress

- Perl script calls esearch for XML file of papers that match query search

```
$query = $keyword . '[ot]+AND+' . $year . '/' . $month . '[dp]';  
#assemble the esearch URL  
$base = 'http://eutils.ncbi.nlm.nih.gov/entrez/eutils/';  
$url = $base . "esearch.fcgi?db=$db&term=$query&usehistory=y";
```



Next Steps

- Integration of PubMed api into application
- Design visualizations using D3
- Best way to filter and visualize data
 - Read more papers and understand landscape
- Run a few test cases