

Re:Search

Rachata Chantarasombat
Matt Drought
Derek Awtry

Project Overview

- Easier way to find professors to work with
- Crawl directory biographies
- Create search engine for faculty directory
- Provide user friendly interface with contact information

Inspiration for Re:Search

- Inconsistency in faculty information
- University directory not user friendly
- No existing alternatives for students to use

The screenshot shows the 'ILLINOIS DIRECTORY' website. On the left is a navigation menu with links: Directory, A-Z Index, Faculty, Social Media, About the Directory, e to Edit Information, Directory Policy, stered Organizations, UIC Phonebook, UIS Directory, and NESSIF. The main content area has a search bar with 'cell biology' entered and a 'search' button. Below the search bar are radio buttons for search criteria: All, Faculty/Staff (selected), Student, Netid, Department, and Phone. The results section shows 'No results returned.' and 'Search Examples' with a table of search patterns.

Search Criteria	Search Examples
Faculty, Staff, & Student	jane doe, jane do*, jan* doe, ja* do* (first name last name)
Netid	jsmith, smith*, *smith
Phone	(217) 333-1000, 333-1000, 3-1000, 31000

At the bottom, contact information is listed: Campus Automated Attendant: (217) 333-1000, CITES Help Desk: (217) 244-7000, and University Police TTY/TDD number: (217) 244-7209.

Examples



Research Themes

Statistics Home

For Students

Department Directory

Research

Consulting Center

Giving

Contact Us

Fundamental Research in Statistics

- Nonparametric and semiparametric statistics
- Bayesian methods and machine learning
- Inferential methods for dependent and longitudinal data
- High dimensional data analysis and model selection
- Monte Carlo methods in statistical computing
- Time series and spatial-temporal models

Large-Scale Statistical Modeling and Analysis

- Statistical Inference and Machine Learning for high dimensional data
- Functional image analysis in medicine and neuroscience
- Climate modeling
- Network analysis
- Multivariate methods for complex statistical surveys and instruments

Biostatistics and Quantitative Biology

- Statistical approaches to integration of mass spectral and genomics data
- Low-rank representation of high-dimensional genomics data
- Statistical analysis for gene regulatory networks
- Statistical modeling in ecology
- Generalized Survival and Longitudinal Analysis

Research

Consulting Center

Giving

Contact Us

STATISTICS 333-2167

Steven A. Culpepper
Assistant Professor
116D IH, MC-374
sculpepp 333-2167

Georgios Fellouris
Assistant Professor
119 IH, MC-374
fellouri 333-2167

Stephane Guerrier
Assistant Professor
101 IH, MC-374
stephane 333-2167

Bo Li
Associate Professor
118 IH, MC-374
libo 333-2167

Adam T. Martinsek
Professor Emeritus
115 IH, MC-374
martinse 333-2167

Stephen Portnoy
Professor Emeritus
122B IH, MC-374
sportnoy 333-2167

Xiaofeng Shao
Associate Professor
104C IH, MC-374
xshao 244-7285

William F. Stout
Professor Emeritus
122A IH, MC-374
w-stout1 333-2167

STATISTICS 333-2167

David Dalpiaz
Visiting Assistant Professor
114 IH, MC-374
dalpiaz2 333-2167

Ellen Fireman
Senior Lecturer
108 IH, MC-374
fireman 333-2167

Karle Laska
Instructor
110 IH, MC-374
laska1 333-2167

Feng Liang
Associate Professor
116A IH, MC-374
liangf 333-2167

Ditlev Monrad
Associate Professor Emeritus
122A IH, MC-374
d-monrad 333-6408

Annie Qu
Professor
116B IH, MC-374
anniequ 333-2167

Douglas G. Simpson
Professor
120 IH, MC-374
dgs 333-2167

David Unger
Instructor, Advisor
116F IH, MC-374
dunger 333-2167

STATISTICS 244-7302

Jeffrey A. Douglas
Professor
116E IH, MC-374
jeffdoug 244-7302

Darren Glosemeyer
Instructor, Advisor
103B IH, MC-374
glosemey 333-2167

Kiryung Lee
Visiting Assistant Professor
114 IH, MC-374
klee81 333-2167

John I. Marden
Professor Emeritus
115 IH, MC-374
jimarden 333-3199

Trevor Park
Visiting Assistant Professor
115 IH, MC-374
thp2 333-2167

Uma Ravat
Lecturer
110 IH, MC-374
333-2167

Alexey G. Stepanov
Senior Lecturer
101A IH, MC-374
stepanov 333-2167

Michelle Y. Wang
Associate Professor
116C IH, MC-374
ymw 244-2694

Research

[Home](#) » [Research](#) » [Research Areas](#) » Architecture, Compilers, and Parallel Computing

Architecture, Compilers, and Parallel Computing

- [Topics](#)
- [Faculty](#)
- [Centers and Labs](#)

Topics

Architecture and compiler research focuses on hardware designs, programming languages and their compilers for next-generation computers and computing components.

Parallel Computing research includes the entire spectrum, from extreme scale computing to new ways to bring parallel computing to mainstream devices and human-centered applications.

Faculty

Marc Snir	large-scale parallel systems, architecture
Laxmikant Kale	numerical, parallel, and scientific computing
Klara Nahrstedt	multimedia middleware, QoS, pervasive computing
Sarita Adve	parallel computing, architecture, low-power systems
William Gropp	parallel computing
Wen-mei Hwu	architecture, HPC and parallel systems, compilers
Vikram Adve	compilers, software reliability, architecture
Gul Agha	distributed systems
David Padua	parallel computing, compilers, architecture

Prospective Students
Current Students
Courses
Alumni
Research
News
Corporate Partners
About Us
Faculty Candidates
Staff Positions
[Directory](#)
Faculty
Staff
Offices and Contacts
Giving

Give Now

 Calendar
 Twitter
 Facebook
 LinkedIn
 CS Store

Marc Snir



Marc Snir

Michael Faiman and Saburo Muroga
Professor
(217) 244-6568
snir@illinois.edu
4232 Siebel Center for Comp Sci

[Overview](#) [Academics](#) [Research](#) [Publications](#) [Honors](#)

Education

Ph.D., Hebrew University of Jerusalem (supervisor, Professor Eli Shamir), 1979

Academic Positions

- 2007-2012, Lead Architect, Blue Waters system software, NCSA
- 2007-2011, Co-director, UPCRC
- 2007-2011, Professor (0%), Graduate School of Library and Information Science, University of Illinois at U-C
- 2001-present, Richard Faiman and Saburo Muroga Professor, Department of Computer Science, University of Illinois at U-C

For more information

[Marc Snir's home page](#)

Related Stories

- Calhoun Receives Blue Waters Graduate Fellowship for Work on Algebraic Multigrid
- CS @ ILLINOIS Has Strong Showing at SC13
- Illinois Symposium on Parallelism Celebrates a Tradition of Innovation
- Snir Receives 2013 IEEE Computer Society Seymour Cray Award
- Marc Snir Wins IEEE Award for Excellence in Scalable Computing
- Snir Named HPC Person to

[Directory](#)[A-Z Index](#)[Faculty](#)[Social Media](#)[About the Directory](#)[Where to Edit Information](#)[Directory Policy](#)[Registered Organizations](#)[UIC Phonebook](#)[UIS Directory](#)[NESSIE](#)[edit: address, phone, mc](#)[CITES EDE](#)[edit: fax, nickname](#)

ILLINOIS FACULTY

Agricultural, Consumer, and Environmental Sciences, College of

- [+](#) Agricultural and Biological Engineering, Department of
- [+](#) Agricultural and Consumer Economics, Department of
- [+](#) Animal Sciences, Department of
- [+](#) Crop Sciences, Department of
- [+](#) Food Science and Human Nutrition, Department of
- [+](#) Human and Community Development, Department of
- [+](#) Natural Resources and Environmental Sciences, Department of

Applied Health Sciences, College of

- [+](#) Kinesiology and Community Health, Department of

Business, College of

- [+](#) Accountancy, Department of
- [+](#) Business Administration, Department of
- [+](#) Finance, Department of

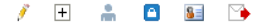
College of Engineering

- [+](#) Aerospace Engineering, Department of
- [+](#) Bioengineering, Department of
- [+](#) Civil and Environmental Engineering, Department of
- [+](#) Computer Science, Department of

- Abdelzaher, Tarek, *Professor*
- Adve, Sarita V, *Professor*
- Adve, Vikram Sadanand, *Professor*
- Agha, Gul A, *Professor*

[Directory](#)[A-Z Index](#)[Faculty](#)[Social Media](#)[About the Directory](#)[Where to Edit Information](#)[Directory Policy](#)[Registered Organizations](#)[UIC Phonebook](#)[UIS Directory](#)[NESSIE](#)[edit: address, phone, mc](#)[CITES EDE](#)[edit: fax, nickname](#)

ILLINOIS DIRECTORY

[search](#) >> [detail](#)

Weng Cho Chew

Professor

Electrical & Computer Eng

Elect & Comp Engr

379 Everett Lab

1406 W Green

M/C 702

Urbana, IL 61801

(217) 333-7309

(217) 244-7345 (fax)

w-chew@illinois.edu

<http://www.ccem.uiuc.edu/chew>

College of Engineering

Education

PhD Electrical Engineering Massachusetts Institute of Technology June 1980

For more information

[Prof. Chew's Home Page](#)

Teaching Statement

Prof. Chew teaches undergraduate courses and graduate courses. Throughout his career at UIUC, he has taught a large variety of undergraduate courses, ranging from electrical machinery, linear systems, electronic devices, electromagnetic fields and waves, to quantum mechanics for electrical engineers. He also teaches graduate courses in fundamental electromagnetics, waves and fields in inhomogeneous media, and theory of microwave and optical waveguides. He seeks to explain difficult concepts in a simple way so that one can obtain good physical insight from the complicated mathematics. He often supplements his lectures with supplementary lecture notes. He believes in the adages, "Once the mind is stretched, it does not regain its original dimension," and, "If you can't explain something simply, you don't really understand it." He is the winner of IEEE Graduate Teaching Award, the UIUC Campus Award for Excellence in Graduate and Professional Teaching, and IEEE AP Chen-To Tai Distinguished Educator Award.

Research Statement

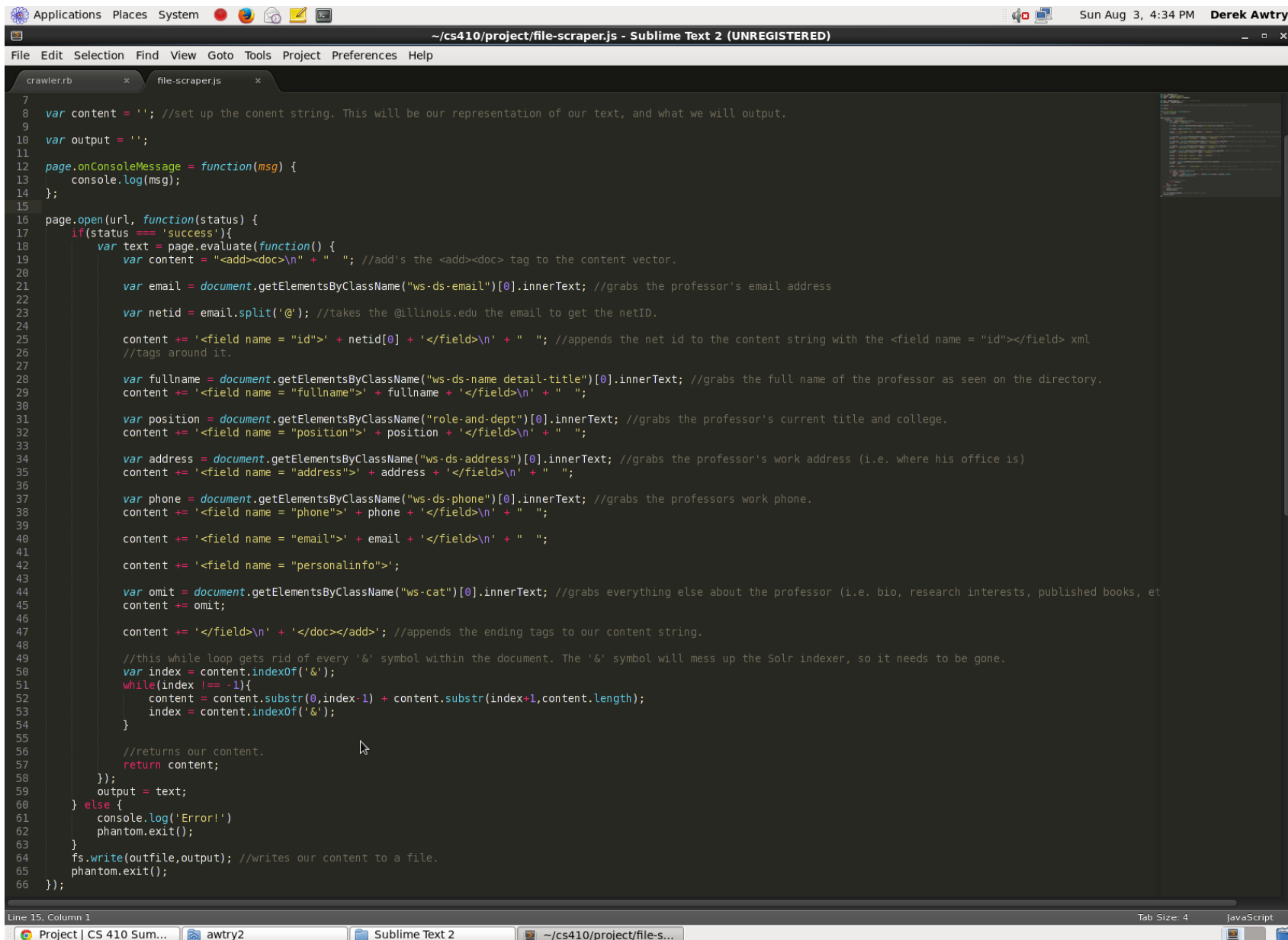
Prof. Chew's research interest is in computational electromagnetics and fast computational algorithms for solving electromagnetic scattering and multiphysics problems. His recent research interest is in adding modern physics and multi-physics concepts to computational works. This includes developing models for solar cells, nano-electronics, quantum transport, and Casimir force. He also studies computational methods to solve the multi-scale problem in computer chip and circuit design. He works with the Area of Excellence Project at The University of Hong Kong on "Theory, Modeling, and Simulation of Emerging Electronics".

His past areas of research interest have been in wave propagation, scattering, inverse scattering, complex boundary value problems for microstrip circuits, and inhomogeneous media for geophysical subsurface sensing, nondestructive testing applications. Previously, he has

Implementation

- Crawled a list of netIDs with useful information
- Output the web pages into XML format
- Solr indexes the XML documents
- Velocity provided a nicer user interface

Scraper and Crawler



The screenshot shows a Sublime Text 2 editor window titled "file-scraper.js - Sublime Text 2 (UNREGISTERED)". The editor is open to a file named "file-scraper.js" and displays a JavaScript script for scraping a website. The script uses the PhantomJS headless browser to fetch a page, parse its HTML, and extract specific data fields like email, netid, full name, position, address, phone, and personal info. It also removes the ampersand (&) characters from the content to avoid issues with the Solr indexer. The script is well-commented and includes error handling.

```
7
8 var content = ''; //set up the content string. This will be our representation of our text, and what we will output.
9
10 var output = '';
11
12 page.onConsoleMessage = function(msg) {
13     console.log(msg);
14 };
15
16 page.open(url, function(status) {
17     if(status === 'success'){
18         var text = page.evaluate(function() {
19             var content = "<add><doc>\n" + " "; //add's the <add><doc> tag to the content vector.
20
21             var email = document.getElementsByClassName("ws-ds-email")[0].innerText; //grabs the professor's email address
22
23             var netid = email.split('@'); //takes the @llinois.edu the email to get the netID.
24
25             content += '<field name = "id">' + netid[0] + '</field>\n' + " "; //appends the net id to the content string with the <field name = "id"></field> xml
26             //tags around it.
27
28             var fullname = document.getElementsByClassName("ws-ds-name detail-title")[0].innerText; //grabs the full name of the professor as seen on the directory.
29             content += '<field name = "fullname">' + fullname + '</field>\n' + " ";
30
31             var position = document.getElementsByClassName("role-and-dept")[0].innerText; //grabs the professor's current title and college.
32             content += '<field name = "position">' + position + '</field>\n' + " ";
33
34             var address = document.getElementsByClassName("ws-ds-address")[0].innerText; //grabs the professor's work address (i.e. where his office is)
35             content += '<field name = "address">' + address + '</field>\n' + " ";
36
37             var phone = document.getElementsByClassName("ws-ds-phone")[0].innerText; //grabs the professors work phone.
38             content += '<field name = "phone">' + phone + '</field>\n' + " ";
39
40             content += '<field name = "email">' + email + '</field>\n' + " ";
41
42             content += '<field name = "personalinfo">';
43
44             var omit = document.getElementsByClassName("ws-cat")[0].innerText; //grabs everything else about the professor (i.e. bio, research interests, published books, et
45             content += omit;
46
47             content += '</field>\n' + '</doc></add>'; //appends the ending tags to our content string.
48
49             //this while loop gets rid of every '&' symbol within the document. The '&' symbol will mess up the Solr indexer, so it needs to be gone.
50             var index = content.indexOf('&');
51             while(index !== -1){
52                 content = content.substr(0, index-1) + content.substr(index+1, content.length);
53                 index = content.indexOf('&');
54             }
55
56             //returns our content.
57             return content;
58         });
59         output = text;
60     } else {
61         console.log('Error!')
62         phantom.exit();
63     }
64     fs.write(outfile, output); //writes our content to a file.
65     phantom.exit();
66 });
```


Solr Administrator Pages



- Dashboard
- Logging
- Core Admin
- Java Properties
- Thread Dump

collection1

- Overview
- Analysis
- Dataimport
- Documents
- Files
- Ping
- Plugins / Stats
- Query
- Replication
- Schema Browser

Statistics

Last Modified: less than a minute ago
Num Docs: 349
Max Doc: 349
Heap Memory Usage: 24536
Deleted Docs: 0
Version: 3
Segment Count: 1
Optimized:
Current:

Replication (Master)

	Version	Gen	Size
Master (Searching)	1406964124433	2	2.45 MB
Master (Replicable)	1406964124433	2	-

+ Admin Extra

Instance

CWD: C:\Users\Rachata\Documents\solr-4.9.0\example
Instance: C:\Users\Rachata\Documents\solr-4.9.0\example\solr\collection1
Data: C:\Users\Rachata\Documents\solr-4.9.0\example\solr\collection1\data
Index: C:\Users\Rachata\Documents\solr-4.9.0\example\solr\collection1\data\index
Impl: org.apache.solr.core.NRTCachingDirectoryFactory

Healthcheck

Ping request handler is not configured with a healthcheck file.

Solr Search



- Dashboard
- Logging
- Core Admin
- Java Properties
- Thread Dump
- collection1
- Overview
- Analysis
- Dataimport
- Documents
- Files
- Ping
- Plugins / Stats
- Query
- Replication
- Schema Browser

Request-Handler (qt)

/select

— common —

q

personalinfo:"Cell and Developmental Biology Concentration"

fq

sort

start, rows

0 53

fl

df

Raw Query Parameters

key1=val1&key2=val2

wt

json

☒ indent

☐ debugQuery

http://localhost:8983/solr/collection1/select?q=personalinfo%3A%22Cell+and+Developmental+Biology+Concentration%22&start=0&rows=53&wt=json&indent=true

```
{
  "responseHeader": {
    "status": 0,
    "QTime": 6,
    "params": {
      "indent": "true",
      "start": "0",
      "q": "personalinfo:\"Cell and Developmental Biology Concentration\"",
      "_": "1406962520170",
      "wt": "json",
      "rows": "53"
    }
  },
  "response": {
    "numFound": 1,
    "start": 0,
    "docs": [
      {
        "id": "jamos",
        "fullname": "Jennifer Amos",
        "position": "DIR UGRAD PRGMS\\n\\nBioengineering\\n",
        "address": "1270 DCI\\n1304 W. Springfield Ave.\\n1304 W Springfield\\nM/C 278\\nUrbana, IL 61801\\n",
        "phone": "(217) 333-4212",
        "email": "jamos@illinois.edu",
        "personalinfo": "Education\\nPh.D., Chemical Engineering, Cell and Developmental Biology Concentration, University of South Carolina, 2008\\nB.S., Chemi",
        "_version_": 1475306262888448000
      }
    ]
  }
}
```

Velocity Search

Re:Search

Type of Search:

Simple

Spatial

Group By

Find: natural language processing

Submit

Reset

☐ Boost by Price

Field Facets

Query Facets

Range Facets

Pivot Facets

Clusters

Run Solr with java -
Dsolr.clustering.enabled=true -
jar start.jar to see clustered
search results.

5 results found in 101 ms Page 1 of 1

czhai [More Info On This Professor](#)

Id: czhai

Name: Chengxiang Zhai

Position: Professor Computer Science

Office Address: 2116 Siebel Center 201 N Goodwin M/C 258 Urbana, IL 61801

Phone Number: (217) 244-4943

Email Address: czhai@illinois.edu

Personal Information: Computational Biology Information Retrieval *Natural Language Processing* edit this information from College of

mfleck [More Info On This Professor](#)

Id: mfleck

Name: Margaret M Fleck

Position: Senior Lecturer Computer Science

Office Address: 3214 Siebel Center 201 N. Goodwin Avenue 201 N Goodwin M/C 258 Urbana, IL 61801

Phone Number: (217) 265-6838 217-265-6854 (fax)

Email Address: mfleck@illinois.edu

Personal Information: Artificial Intelligence *Natural Language Processing* Speech Vision edit this information from College of

jhasegaw [More Info On This Professor](#)

Id: jhasegaw

Name: Mark Allan Hasegawa-Johnson

Position: Professor Electrical Computer Eng

Office Address: Elec Comp Engr 2011 Bi 405 N Mathews M/C 251 Urbana, IL 61801

Phone Number: (217) 333-0925 217-244-8371 (fax)

Email Address: jhasegaw@illinois.edu

Experiments

- Tested Okapi BM25, Dirichlet-Prior, and Jelinek-Mercer against simple keyword matching
- All returned similar results
- Okapi was slightly faster

“Cell Biology”

Okapi

Jelinek-Mercer

Dirichlet-Prior

25 results found in 19 ms Page 1 of 3		25 results found in 39 ms Page 1 of 3		25 results found in 99 ms Page 1 of 3	
hongchen More Info On This Professor Id: hongchen Name: Hong Chen Position: Assistant Professor, FSHN Assistant Professor, Nutritional Sciences Food Science Human Nutrition Office Address: 472B Bevier Hall M/C 182 Urbana, IL 61801 Phone Number: (217) 244-6160 Email Address: hongchen@illinois.edu Personal Information: Biography Dr. Chen received her B.S. degree in cell biology from Lanzhou University in China. She		hongchen More Info On This Professor Id: hongchen Name: Hong Chen Position: Assistant Professor, FSHN Assistant Professor, Nutritional Sciences Food Science Human Nutrition Office Address: 472B Bevier Hall M/C 182 Urbana, IL 61801 Phone Number: (217) 244-6160 Email Address: hongchen@illinois.edu Personal Information: Biography Dr. Chen received her B.S. degree in cell biology from Lanzhou University in China. She		nwangrw More Info On This Professor Id: nwangrw Name: Ning Wang Position: Professor Mechanical Sci Engineering Office Address: 2326 MEL M/C 244 Urbana, IL 61801 Phone Number: (217) 265-0913 Email Address: nwangrw@illinois.edu Personal Information: Physiology and Cell Biology, Harvard School of Public Health, July 2005-February 2006. Associate Professor	
tkuhlman More Info On This Professor Id: tkuhlman Name: Thomas E Kuhlman Position: Assistant Professor Physics Office Address: 1110 W. Green M/C 704 Urbana, IL 61801 Phone Number: (217) 333-5680 Email Address: tkuhlman@illinois.edu Personal Information: For more information Kuhlman Lab for Quantitative Biology Research Areas Biological Physics		tkuhlman More Info On This Professor Id: tkuhlman Name: Thomas E Kuhlman Position: Assistant Professor Physics Office Address: 1110 W. Green M/C 704 Urbana, IL 61801 Phone Number: (217) 333-5680 Email Address: tkuhlman@illinois.edu Personal Information: For more information Kuhlman Lab for Quantitative Biology Research Areas Biological Physics		pji More Info On This Professor Id: pji Name: Princess U II Imoukhuede Position: Assistant Professor Bioengineering Office Address: 3235 Digital Computer Lab 1304 W Springfield M/C 278 Urbana, IL 61801 Phone Number: (217) 244-2651 Email Address: pji@illinois.edu Personal Information: , Massachusetts Institute of Technology, 2002 Academic Positions Affiliate, Institute for Genomic Biology	
yi-lu More Info On This Professor Id: yi-lu Name: Yi Lu Position: Professor Chemistry Office Address: 600 S. Mathews Ave. A322 CLSL, Box 8-6, Chemistry 600 S Mathews M/C 712 Urbana, IL 61801 Phone Number: (217) 333-2619 Email Address: yi-lu@illinois.edu Personal Information: programs in Biophysics and the School of Molecular and Cellular Biology, Dept. of Animal Sciences) Cell and		yi-lu More Info On This Professor Id: yi-lu Name: Yi Lu Position: Professor Chemistry Office Address: 600 S. Mathews Ave. A322 CLSL, Box 8-6, Chemistry 600 S Mathews M/C 712 Urbana, IL 61801 Phone Number: (217) 333-2619 Email Address: yi-lu@illinois.edu Personal Information: programs in Biophysics and the School of Molecular and Cellular Biology, Dept. of Animal Sciences) Cell and		gunderhi More Info On This Professor Id: gunderhi Name: Gregory H Underhill Position: Assistant Professor Bioengineering Office Address: 3235 Digital Computer Lab 1304 W Springfield M/C 278 Urbana, IL 61801 Phone Number: (217) 244-2169 Email Address: gunderhi@illinois.edu Personal Information: Faculty, Institute for Genomic Biology, University of Illinois at Urbana-Champaign, 3/2012-present	
		pji More Info On This Professor Id: pji Name: Princess U II Imoukhuede Position: Assistant Professor Bioengineering Office Address: 3235 Digital Computer Lab 1304 W Springfield M/C 278 Urbana, IL 61801 Phone Number: (217) 244-2651 Email Address: pji@illinois.edu Personal Information: , Massachusetts Institute of Technology, 2002 Academic Positions Affiliate, Institute for Genomic Biology			

Obstacles

- Lack of consistency in information provided
- Solr's documentation is lacking

Future Work

- Creating an independent search engine
- Expanding our corpus (WINACS)
- Perform more tests for optimization
- Include custom similarity function

Questions?