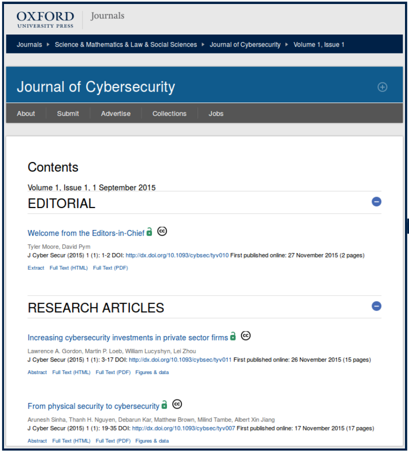
Smart Harvesting with OXPath

Mandy Neumann
TH Köln
mandy.neumann@th-koeln.de

Christopher Michels
University of Trier
michelsc@uni-trier.de

February 22, 2018

Harvesting Bibliographic Data



OXFORD
UNIVERSITY PRESS
Journals
Journals ▸ Science & Mathematics & Law & Social Sciences ▸ Journal of Cybersecurity ▸ Volume 1, Issue 1
Journal of Cybersecurity
About
Submit
Advertise
Collections
Jobs

Contents

Volume 1, Issue 1, 1 September 2015

EDITORIAL

Welcome from the Editors-in-Chief

Tyler Moore, David Pym

J Cyber Secur (2015) 1 (1): 1-2 DOI: http://dx.doi.org/10.1093/cybsec/tyv010 First published online: 27 November 2015 (2 pages)

Extract Full Text (HTML) Full Text (PDF)

RESEARCH ARTICLES

Increasing cybersecurity investments in private sector firms

Lawrence A. Gordon, Martin P. Loeb, William Lucyshyn, Lei Zhou

J Cyber Secur (2015) 1 (1): 3-17 DOI: http://dx.doi.org/10.1093/cybsec/tyv011 First published online: 26 November 2015 (15 pages)

Abstract Full Text (HTML) Full Text (PDF) Figures & data

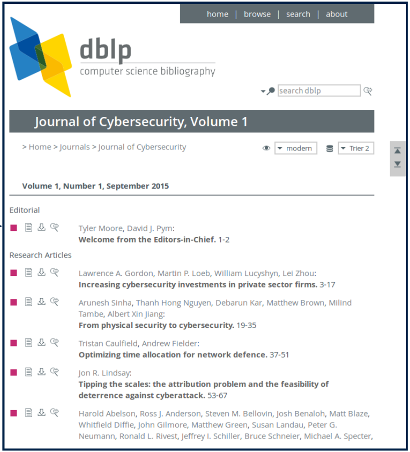
From physical security to cybersecurity

Arunesh Sinha, Thanh H. Nguyen, Debarun Kar, Matthew Brown, Milind Tambe, Albert Xin Jiang

J Cyber Secur (2015) 1 (1): 19-35 DOI: http://dx.doi.org/10.1093/cybsec/tyv007 First published online: 17 November 2015 (17 pages)

Abstract Full Text (HTML) Full Text (PDF) Figures & data

?



Journal of Cybersecurity, Volume 1

> Home > Journals > Journal of Cybersecurity

Volume 1, Number 1, September 2015

Editorial

Tyler Moore, David J. Pym:
Welcome from the Editors-in-Chief. 1-2

Research Articles

Lawrence A. Gordon, Martin P. Loeb, William Lucyshyn, Lei Zhou:
Increasing cybersecurity investments in private sector firms. 3-17

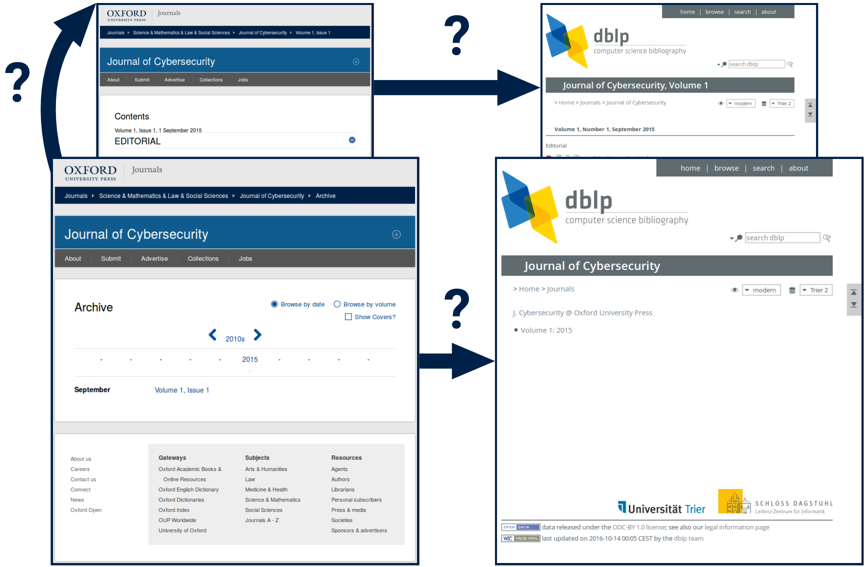
Arunesh Sinha, Thanh Hong Nguyen, Debarun Kar, Matthew Brown, Milind Tambe, Albert Xin Jiang:
From physical security to cybersecurity. 19-35

Tristan Caulfield, Andrew Fielder:
Optimizing time allocation for network defence. 37-51

Jon R. Lindsay:
Tipping the scales: the attribution problem and the feasibility of deterrence against cyberattack. 53-67

Harold Abelson, Ross J. Anderson, Steven M. Bellovin, Josh Benaloh, Matt Blaze, Whitfield Diffie, John Gilmore, Matthew Green, Susan Landau, Peter G. Neumann, Ronald L. Rivest, Jeffrey I. Schiller, Bruce Schneier, Michael A. Specter,

Accessing Bibliographic Data



OXFORD UNIVERSITY PRESS | Journals

Journals ▸ Science & Mathematics & Law & Social Sciences ▸ Journal of Cybersecurity ▸ Volume 1, Issue 1

Journal of Cybersecurity

About | Submit | Advertise | Collections | Jobs

Contents

Volume 1, Issue 1, 1 September 2015

EDITORIAL

home | browse | search | about

dblp
computer science bibliography

search dblp

Journal of Cybersecurity, Volume 1

> Home > Journals > Journal of Cybersecurity

modern | Trier 2

Volume 1, Number 1, September 2015

Editorial

OXFORD UNIVERSITY PRESS | Journals

Journals ▸ Science & Mathematics & Law & Social Sciences ▸ Journal of Cybersecurity ▸ Archive

Journal of Cybersecurity

About | Submit | Advertise | Collections | Jobs

Archive

● Browse by date ○ Browse by volume
□ Show Covers?

2010s

- - - - - 2015 - - - -

September Volume 1, Issue 1

About us
Careers
Contact us
Connect
News
Oxford Open

Gateways
Oxford Academic Books & Online Resources
Oxford English Dictionary
Oxford Dictionaries
Oxford Index
OUP Worldwide
University of Oxford

Subjects
Arts & Humanities
Law
Medicine & Health
Science & Mathematics
Social Sciences
Journals A - Z

Resources
Agents
Authors
Librarians
Personal subscribers
Press & media
Societies
Sponsors & advertisers

home | browse | search | about

dblp
computer science bibliography

search dblp

Journal of Cybersecurity

> Home > Journals

modern | Trier 2

J. Cybersecurity @ Oxford University Press

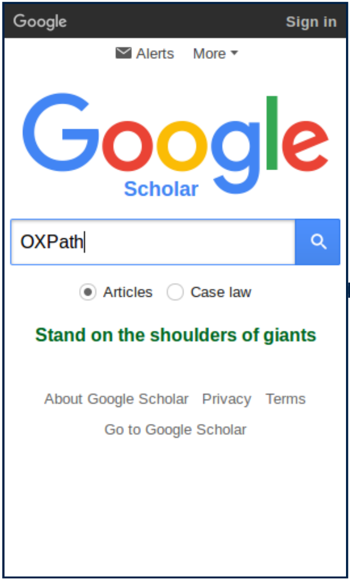
- Volume 1: 2015

Universität Trier
SCHLOSS DAGSTUHL Leibniz-Zentrum für Informatik

OPEN DATA data released under the ODC-BY 1.0 license; see also our legal information page

W3C VALID HTML last updated on 2016-10-14 00:05 CEST by the dblp team

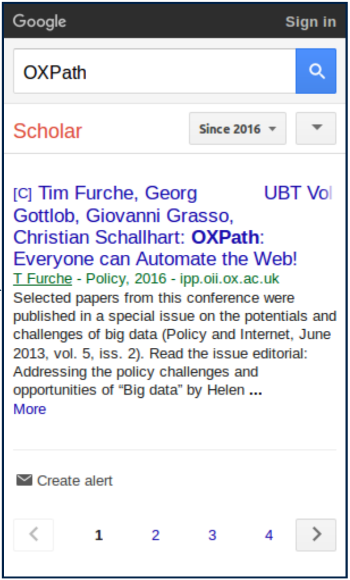
Accessing Bibliographic Data



OXPath

● Articles ○ Case law

?



OXPath

[C] Tim Furche, Georg Gottlob, Giovanni Grasso, Christian Schallhart: **OXPath**: Everyone can Automate the Web! UBT Vol

T Furche - Policy, 2016 - ipp.oii.ox.ac.uk

Selected papers from this conference were published in a special issue on the potentials and challenges of big data (Policy and Internet, June 2013, vol. 5, iss. 2). Read the issue editorial: Addressing the policy challenges and opportunities of “Big data” by Helen **...**

More

Project Profile: Smart Harvesting II

Partners:

- dblp, GESIS, TH Köln

Motivation:

- extract bibliographic data with OXPath
- facilitate maintenance of scientific literature databases

Solution:

- provide working environment and tools to use OXPath

OXPath:

- simple, declarative language for web data extraction

Table of Contents

1. Project Profile: Smart Harvesting II
2. Maintaining Scientific Literature Databases
3. OXPath
4. Monitoring
5. Examples
6. Demonstration

Table of Contents

1 Project Profile: Smart Harvesting II

2 Maintaining Scientific Literature Databases

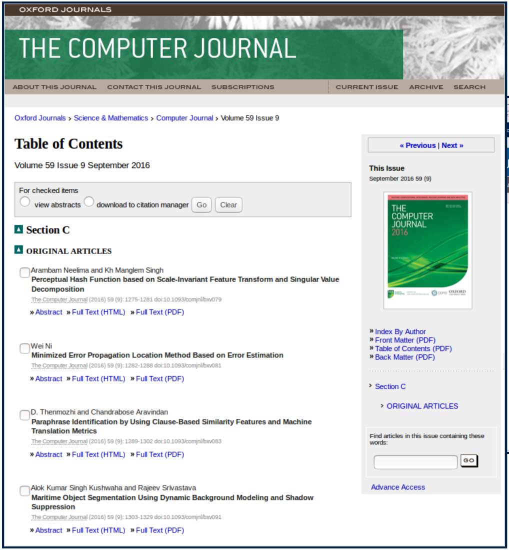
3 OXPath

4 Monitoring

5 Examples

6 Demonstration

Sources of Raw Digital Data



OXFORD JOURNALS

THE COMPUTER JOURNAL

ABOUT THIS JOURNAL CONTACT THIS JOURNAL SUBSCRIPTIONS CURRENT ISSUE ARCHIVE SEARCH

Oxford Journals › Science & Mathematics › Computer Journal › Volume 59 Issue 9

Table of Contents

Volume 59 Issue 9 September 2016

For checked items
○ view abstracts ○ download to citation manager Go Clear

Section C

ORIGINAL ARTICLES

□ Arambam Neelima and Kh Manglem Singh
Perceptual Hash Function based on Scale-Invariant Feature Transform and Singular Value Decomposition
The Computer Journal (2016) 59 (9): 1275-1281 doi:10.1093/comjnl/bxv079
» Abstract » Full Text (HTML) » Full Text (PDF)

□ Wei Ni
Minimized Error Propagation Location Method Based on Error Estimation
The Computer Journal (2016) 59 (9): 1282-1288 doi:10.1093/comjnl/bxv081
» Abstract » Full Text (HTML) » Full Text (PDF)

□ D. Thenmozhi and Chandrabose Aravindan
Paraphrase Identification by Using Clause-Based Similarity Features and Machine Translation Metrics
The Computer Journal (2016) 59 (9): 1289-1302 doi:10.1093/comjnl/bxv083
» Abstract » Full Text (HTML) » Full Text (PDF)

□ Alok Kumar Singh Kushwaha and Rajeev Srivastava
Maritime Object Segmentation Using Dynamic Background Modeling and Shadow Suppression
The Computer Journal (2016) 59 (9): 1303-1329 doi:10.1093/comjnl/bxv091
» Abstract » Full Text (HTML) » Full Text (PDF)

« Previous | Next »

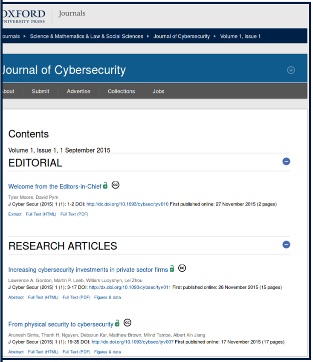
This Issue
September 2016 59 (9)

» Index By Author
» Front Matter (PDF)
» Table of Contents (PDF)
» Back Matter (PDF)

› Section C
› ORIGINAL ARTICLES

Find articles in this issue containing these words:
GO

Advance Access



OXFORD UNIVERSITY PRESS Journals

ournals ▸ Science & Mathematics & Law & Social Sciences ▸ Journal of Cybersecurity ▸ Volume 1, Issue 1

Journal of Cybersecurity

bout Submit Advertise Collections Jobs

Contents

Volume 1, Issue 1, 1 September 2015

EDITORIAL

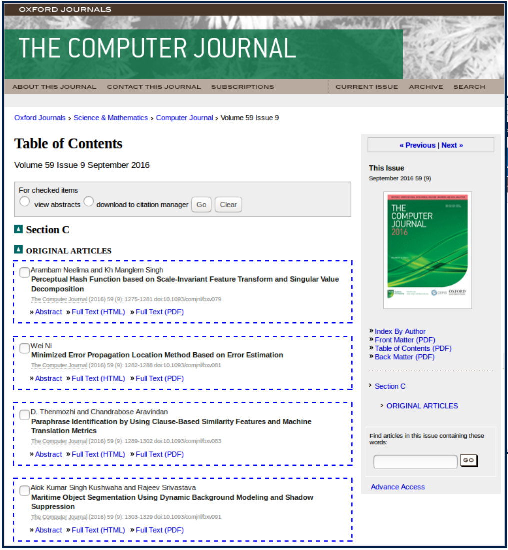
Welcome from the Editors-in-Chief
Tyler Moore, David Pym
J Cyber Secur (2015) 1 (1): 1-2 DOI: http://dx.doi.org/10.1093/cybsec/tyv010 First published online: 27 November 2015 (2 pages)
Extract Full Text (HTML) Full Text (PDF)

RESEARCH ARTICLES

Increasing cybersecurity investments in private sector firms
Lawrence A. Gordon, Martin P. Loeb, William Lucyshyn, Lei Zhou
J Cyber Secur (2015) 1 (1): 3-17 DOI: http://dx.doi.org/10.1093/cybsec/tyv011 First published online: 26 November 2015 (15 pages)
Abstract Full Text (HTML) Full Text (PDF) Figures & data

From physical security to cybersecurity
Arunesh Sinha, Thanh H. Nguyen, Debarun Kar, Matthew Brown, Milind Tambe, Albert Xin Jiang
J Cyber Secur (2015) 1 (1): 19-35 DOI: http://dx.doi.org/10.1093/cybsec/tyv007 First published online: 17 November 2015 (17 pages)
Abstract Full Text (HTML) Full Text (PDF) Figures & data

Sources of Raw Digital Data



OXFORD JOURNALS

THE COMPUTER JOURNAL

Oxford Journals › Science & Mathematics › Computer Journal › Volume 59 Issue 9

Table of Contents

Volume 59 Issue 9 September 2016

For checked items
○ view abstracts ○ download to citation manager Go Clear

Section C

ORIGINAL ARTICLES

□ Arambam Neelima and Kh Manglem Singh
Perceptual Hash Function based on Scale-Invariant Feature Transform and Singular Value Decomposition
The Computer Journal (2016) 59 (9): 1275-1281 doi:10.1093/comjnl/bxv079
» Abstract » Full Text (HTML) » Full Text (PDF)

□ Wei Ni
Minimized Error Propagation Location Method Based on Error Estimation
The Computer Journal (2016) 59 (9): 1282-1288 doi:10.1093/comjnl/bxv081
» Abstract » Full Text (HTML) » Full Text (PDF)

□ D. Thenmozhi and Chandrabose Aravindan
Paraphrase Identification by Using Clause-Based Similarity Features and Machine Translation Metrics
The Computer Journal (2016) 59 (9): 1289-1302 doi:10.1093/comjnl/bxv083
» Abstract » Full Text (HTML) » Full Text (PDF)

□ Alok Kumar Singh Kushwaha and Rajeev Srivastava
Maritime Object Segmentation Using Dynamic Background Modeling and Shadow Suppression
The Computer Journal (2016) 59 (9): 1303-1329 doi:10.1093/comjnl/bxv091
» Abstract » Full Text (HTML) » Full Text (PDF)

« Previous | Next »

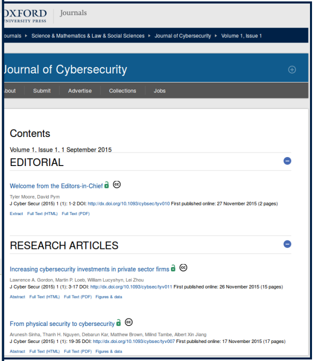
This Issue
September 2016 59 (9)

» Index By Author
» Front Matter (PDF)
» Table of Contents (PDF)
» Back Matter (PDF)

› Section C
› ORIGINAL ARTICLES

Find articles in this issue containing these words:
GO

Advance Access



XFORD UNIVERSITY PRESS | Journals

ournals ‣ Science & Mathematics & Law & Social Sciences ‣ Journal of Cybersecurity ‣ Volume 1, Issue 1

Journal of Cybersecurity

Contents

Volume 1, Issue 1, 1 September 2015

EDITORIAL

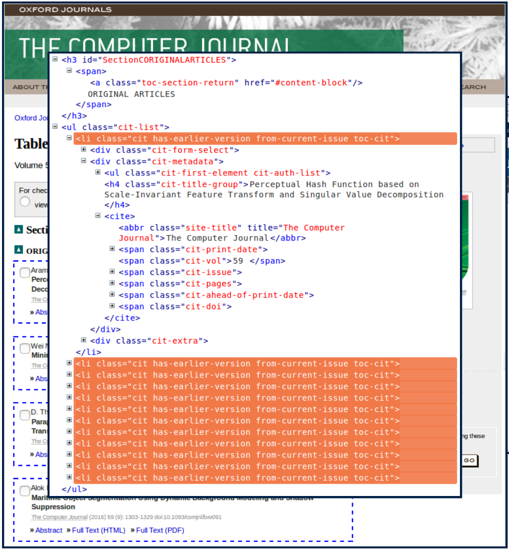
Welcome from the Editors-in-Chief
Tyler Moore, David Pym
J Cyber Secur (2015) 1 (1): 1-2 DOI: http://dx.doi.org/10.1093/cybsec/tyv010 First published online: 27 November 2015 (2 pages)
Extract Full Text (HTML) Full Text (PDF)

RESEARCH ARTICLES

Increasing cybersecurity investments in private sector firms
Lawrence A. Gordon, Martin P. Loeb, William Lucyshyn, Lei Zhou
J Cyber Secur (2015) 1 (1): 3-17 DOI: http://dx.doi.org/10.1093/cybsec/tyv011 First published online: 26 November 2015 (15 pages)
Abstract Full Text (HTML) Full Text (PDF) Figures & data

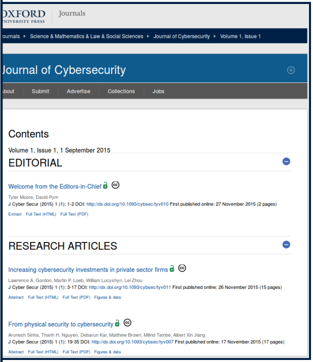
From physical security to cybersecurity
Arunesh Sinha, Thanh H. Nguyen, Debarun Kar, Matthew Brown, Milind Tambe, Albert Xin Jiang
J Cyber Secur (2015) 1 (1): 19-35 DOI: http://dx.doi.org/10.1093/cybsec/tyv007 First published online: 17 November 2015 (17 pages)
Abstract Full Text (HTML) Full Text (PDF) Figures & data

Sources of Raw Digital Data



```
⊟ <h3 id="SectionCORIGINALARTICLES">
  ⊟ <span>
      <a class="toc-section-return" href="#content-block"/>
     ORIGINAL ARTICLES
    </span>
  </h3>
⊟ <ul class="cit-list">
  ⊟ <li class="cit has-earlier-version from-current-issue toc-cit">
    ⊞ <div class="cit-form-select">
    ⊟ <div class="cit-metadata">
      ⊞ <ul class="cit-first-element cit-auth-list">
        <h4 class="cit-title-group">Perceptual Hash Function based on
        Scale-Invariant Feature Transform and Singular Value Decomposition
        </h4>
      ⊟ <cite>
          <abbr class="site-title" title="The Computer
          Journal">The Computer Journal</abbr>
        ⊞ <span class="cit-print-date">
          <span class="cit-vol">59 </span>
        ⊞ <span class="cit-issue">
        ⊞ <span class="cit-pages">
        ⊞ <span class="cit-ahead-of-print-date">
        ⊞ <span class="cit-doi">
        </cite>
      </div>
    ⊞ <div class="cit-extra">
    </li>
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  </ul>
```

□ Alok
Maritime Object Segmentation Using Dynamic Background Modeling and Shadow Suppression
The Computer Journal (2016) 59 (9): 1303-1329 doi:10.1093/comjnl/bxv091
» Abstract » Full Text (HTML) » Full Text (PDF)



XFORD UNIVERSITY PRESS
Journals
ournals ▸ Science & Mathematics & Law & Social Sciences ▸ Journal of Cybersecurity ▸ Volume 1, Issue 1
Journal of Cybersecurity
bout
Submit
Advertise
Collections
Jobs

Contents

Volume 1, Issue 1, 1 September 2015

EDITORIAL

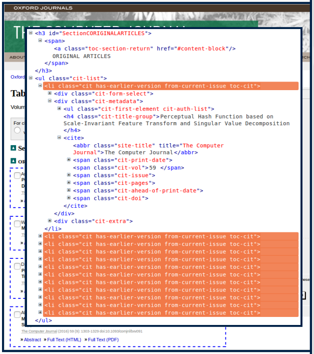
Welcome from the Editors-in-Chief 🔓 ©
Tyler Moore, David Pym
J Cyber Secur (2015) 1 (1): 1-2 DOI: http://dx.doi.org/10.1093/cybsec/tyv010 First published online: 27 November 2015 (2 pages)
Extract Full Text (HTML) Full Text (PDF)

RESEARCH ARTICLES

Increasing cybersecurity investments in private sector firms 🔓 ©
Lawrence A. Gordon, Martin P. Loeb, William Lucyshyn, Lei Zhou
J Cyber Secur (2015) 1 (1): 3-17 DOI: http://dx.doi.org/10.1093/cybsec/tyv011 First published online: 26 November 2015 (15 pages)
Abstract Full Text (HTML) Full Text (PDF) Figures & data

From physical security to cybersecurity 🔓 ©
Arunesh Sinha, Thanh H. Nguyen, Debarun Kar, Matthew Brown, Milind Tambe, Albert Xin Jiang
J Cyber Secur (2015) 1 (1): 19-35 DOI: http://dx.doi.org/10.1093/cybsec/tyv007 First published online: 17 November 2015 (17 pages)
Abstract Full Text (HTML) Full Text (PDF) Figures & data

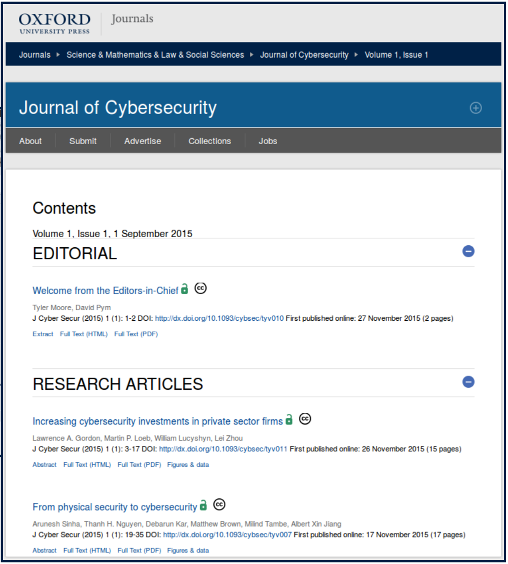
Sources of Raw Digital Data



```
⊟ <h3 id="SectionCORIGINALARTICLES">
  ⊟ <span>
      <a class="toc-section-return" href="#content-block"/>
      ORIGINAL ARTICLES
    </span>
  </h3>
⊟ <ul class="cit-list">
  ⊟ <li class="cit has-earlier-version from-current-issue toc-cit">
    ⊞ <div class="cit-form-select">
    ⊟ <div class="cit-metadata">
      ⊞ <ul class="cit-first-element cit-auth-list">
        <h4 class="cit-title-group">Perceptual Hash Function based on
        Scale-Invariant Feature Transform and Singular Value Decomposition
        </h4>
      ⊟ <cite>
          <abbr class="site-title" title="The Computer
          Journal">The Computer Journal</abbr>
        ⊞ <span class="cit-print-date">
          <span class="cit-vol">59 </span>
        ⊞ <span class="cit-issue">
        ⊞ <span class="cit-pages">
        ⊞ <span class="cit-ahead-of-print-date">
        ⊞ <span class="cit-doi">
        </cite>
      </div>
    ⊞ <div class="cit-extra">
    </li>
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
  ⊞ <li class="cit has-earlier-version from-current-issue toc-cit">
</ul>
```

The Computer Journal (2016) 59 (9): 1303-1329 doi:10.1093/comjnl/bxv091

» Abstract » Full Text (HTML) » Full Text (PDF)



OXFORD UNIVERSITY PRESS | Journals
Journals ▸ Science & Mathematics & Law & Social Sciences ▸ Journal of Cybersecurity ▸ Volume 1, Issue 1
Journal of Cybersecurity
About
Submit
Advertise
Collections
Jobs

Contents

Volume 1, Issue 1, 1 September 2015

EDITORIAL

Welcome from the Editors-in-Chief

Tyler Moore, David Pym

J Cyber Secur (2015) 1 (1): 1-2 DOI: http://dx.doi.org/10.1093/cybsec/tyv010 First published online: 27 November 2015 (2 pages)

Extract Full Text (HTML) Full Text (PDF)

RESEARCH ARTICLES

Increasing cybersecurity investments in private sector firms

Lawrence A. Gordon, Martin P. Loeb, William Lucyshyn, Lei Zhou

J Cyber Secur (2015) 1 (1): 3-17 DOI: http://dx.doi.org/10.1093/cybsec/tyv011 First published online: 26 November 2015 (15 pages)

Abstract Full Text (HTML) Full Text (PDF) Figures & data

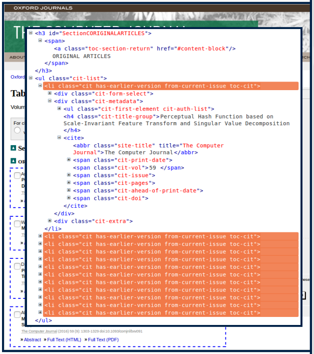
From physical security to cybersecurity

Arunesh Sinha, Thanh H. Nguyen, Debarun Kar, Matthew Brown, Milind Tambe, Albert Xin Jiang

J Cyber Secur (2015) 1 (1): 19-35 DOI: http://dx.doi.org/10.1093/cybsec/tyv007 First published online: 17 November 2015 (17 pages)

Abstract Full Text (HTML) Full Text (PDF) Figures & data

Sources of Raw Digital Data

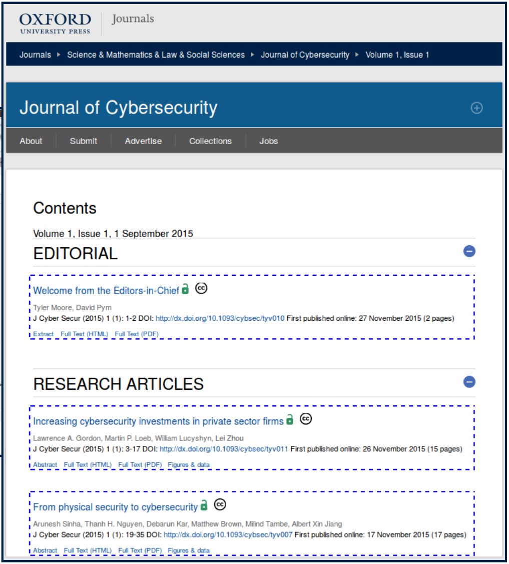


OXFORD JOURNALS

```
<h3 id="SectionCORIGINALARTICLES">
  <span>
    <a class="toc-section-return" href="#content-block"/>
   ORIGINAL ARTICLES
  </span>
</h3>
<ul class="cit-list">
  <li class="cit has-earlier-version from-current-issue toc-cit">
    <div class="cit-form-select">
    <div class="cit-metadata">
      <ul class="cit-first-element cit-auth-list">
      <h4 class="cit-title-group">Perceptual Hash Function based on
      Scale-Invariant Feature Transform and Singular Value Decomposition
      </h4>
      <cite>
        <abbr class="site-title" title="The Computer
        Journal">The Computer Journal</abbr>
        <span class="cit-print-date">
        <span class="cit-vol">59 </span>
        <span class="cit-issue">
        <span class="cit-pages">
        <span class="cit-ahead-of-print-date">
        <span class="cit-doi">
      </cite>
    </div>
    <div class="cit-extra">
  </li>
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
</ul>
```

The Computer Journal (2016) 59 (9): 1303-1329 doi:10.1093/comjnl/bxv091

» Abstract » Full Text (HTML) » Full Text (PDF)



OXFORD UNIVERSITY PRESS
Journals
Journals ▸ Science & Mathematics & Law & Social Sciences ▸ Journal of Cybersecurity ▸ Volume 1, Issue 1
About
Submit
Advertise
Collections
Jobs

Journal of Cybersecurity

Contents

Volume 1, Issue 1, 1 September 2015

EDITORIAL

Welcome from the Editors-in-Chief

Tyler Moore, David Pym

J Cyber Secur (2015) 1 (1): 1-2 DOI: http://dx.doi.org/10.1093/cybsec/tyv010 First published online: 27 November 2015 (2 pages)

Extract Full Text (HTML) Full Text (PDF)

RESEARCH ARTICLES

Increasing cybersecurity investments in private sector firms

Lawrence A. Gordon, Martin P. Loeb, William Lucyshyn, Lei Zhou

J Cyber Secur (2015) 1 (1): 3-17 DOI: http://dx.doi.org/10.1093/cybsec/tyv011 First published online: 26 November 2015 (15 pages)

Abstract Full Text (HTML) Full Text (PDF) Figures & data

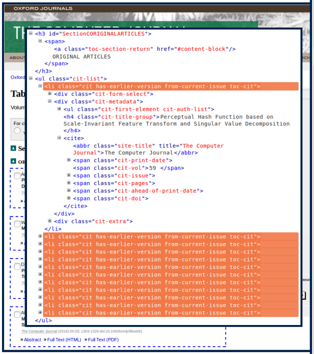
From physical security to cybersecurity

Arunesh Sinha, Thanh H. Nguyen, Debarun Kar, Matthew Brown, Milind Tambe, Albert Xin Jiang

J Cyber Secur (2015) 1 (1): 19-35 DOI: http://dx.doi.org/10.1093/cybsec/tyv007 First published online: 17 November 2015 (17 pages)

Abstract Full Text (HTML) Full Text (PDF) Figures & data

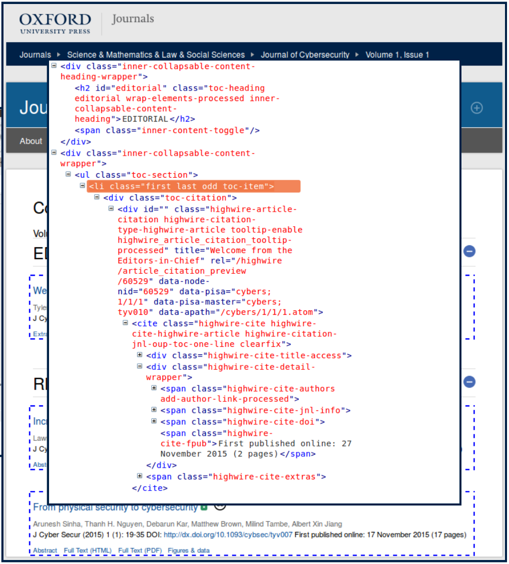
Sources of Raw Digital Data



```
<h3 id="SectionCORIGINALARTICLES">
  <span>
    <a class="toc-section-return" href="#content-block"/>
   ORIGINAL ARTICLES
  </span>
</h3>
<ul class="cit-list">
  <li class="cit has-earlier-version from-current-issue toc-cit">
    <div class="cit-form-select">
    <div class="cit-metadata">
      <ul class="cit-first-element cit-auth-list">
      <h4 class="cit-title-group">Perceptual Hash Function based on
      Scale-Invariant Feature Transform and Singular Value Decomposition
      </h4>
      <cite>
        <abbr class="site-title" title="The Computer
        Journal">The Computer Journal</abbr>
        <span class="cit-print-date">
        <span class="cit-vol">59 </span>
        <span class="cit-issue">
        <span class="cit-pages">
        <span class="cit-ahead-of-print-date">
        <span class="cit-doi">
      </cite>
    </div>
    <div class="cit-extra">
  </li>
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
  <li class="cit has-earlier-version from-current-issue toc-cit">
</ul>
```

The Computer Journal (2016) 59 (9): 1303-1329 doi:10.1093/comjnl/bxv091

» Abstract » Full Text (HTML) » Full Text (PDF)



OXFORD
UNIVERSITY PRESS
Journals
Journals ▸ Science & Mathematics & Law & Social Sciences ▸ Journal of Cybersecurity ▸ Volume 1, Issue 1
About

```
<div class="inner-collapsable-content-
heading-wrapper">
  <h2 id="editorial" class="toc-heading
  editorial wrap-elements-processed inner-
  collapsable-content-
  heading">EDITORIAL</h2>
  <span class="inner-content-toggle"/>
</div>
<div class="inner-collapsable-content-
wrapper">
  <ul class="toc-section">
    <li class="first last odd toc-item">
      <div class="toc-citation">
        <div id="" class="highwire-article-
        citation highwire-citation-
        type-highwire-article tooltip-enable
        highwire_article_citation_tooltip-
        processed" title="Welcome from the
        Editors-in-Chief" rel="/highwire
        /article_citation_preview
        /60529" data-node-
        nid="60529" data-pisa="cybers;
        1/1/1" data-pisa-master="cybers;
        tyv010" data-apath="/cybers/1/1/1.atom">
          <cite class="highwire-cite highwire-
          cite-highwire-article highwire-citation-
          jnl-oup-toc-one-line clearfix">
            <div class="highwire-cite-title-access">
            <div class="highwire-cite-detail-
            wrapper">
              <span class="highwire-cite-authors
              add-author-link-processed">
              <span class="highwire-cite-jnl-info">
              <span class="highwire-cite-doi">
              <span class="highwire-
              cite-fpub">First published online: 27
              November 2015 (2 pages)</span>
            </div>
            <span class="highwire-cite-extras">
          </cite>
```

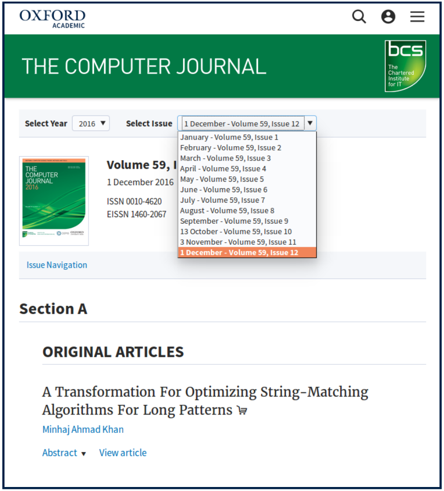
From physical security to cybersecurity

Arunesh Sinha, Thanh H. Nguyen, Debarun Kar, Matthew Brown, Milind Tambe, Albert Xin Jiang

J Cyber Secur (2015) 1 (1): 19-35 DOI: http://dx.doi.org/10.1093/cybsec/tyv007 First published online: 17 November 2015 (17 pages)

Abstract Full Text (HTML) Full Text (PDF) Figures & data

Sources of Raw Digital Data



OXFORD ACADEMIC

THE COMPUTER JOURNAL

bcs The Chartered Institute for IT

Select Year 2016 ▼ Select Issue 1 December - Volume 59, Issue 12 ▼

- January - Volume 59, Issue 1
- February - Volume 59, Issue 2
- March - Volume 59, Issue 3
- April - Volume 59, Issue 4
- May - Volume 59, Issue 5
- June - Volume 59, Issue 6
- July - Volume 59, Issue 7
- August - Volume 59, Issue 8
- September - Volume 59, Issue 9
- 13 October - Volume 59, Issue 10
- 3 November - Volume 59, Issue 11
- **1 December - Volume 59, Issue 12**

Volume 59, I

1 December 2016

ISSN 0010-4620

EISSN 1460-2067

Issue Navigation

Section A

ORIGINAL ARTICLES

A Transformation For Optimizing String-Matching Algorithms For Long Patterns

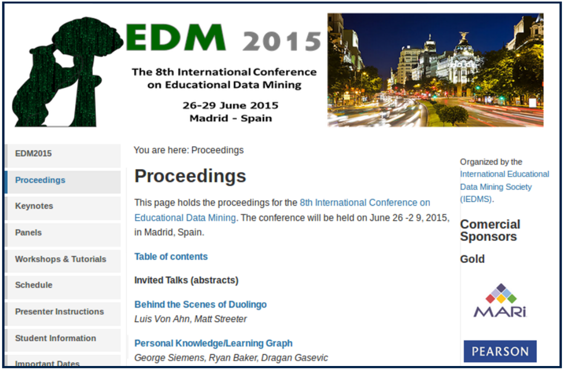
Minhaj Ahmad Khan

Abstract ▾ View article

Oxford Academic:

- moved to new platform
- Winter 2016 - Spring 2017
- gradually moving individual journals
- 3 content platforms in use at the same time

Sources of Raw Digital Data



The 8th International Conference on Educational Data Mining

26-29 June 2015
Madrid - Spain

You are here: Proceedings

Proceedings

This page holds the proceedings for the 8th International Conference on Educational Data Mining. The conference will be held on June 26 -2 9, 2015, in Madrid, Spain.

Table of contents

Invited Talks (abstracts)

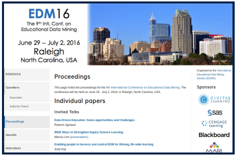
Behind the Scenes of Duolingo
Luis Von Ahn, Matt Streeter

Personal Knowledge/Learning Graph
George Siemens, Ryan Baker, Dragan Gasevic

Organized by the International Educational Data Mining Society (IEDMS).

Comercial Sponsors

Gold



The 9th Intl. Conf. on Educational Data Mining

June 29 – July 2, 2016
Raleigh
North Carolina, USA

Proceedings

This page holds the proceedings for the 9th International Conference on Educational Data Mining. The conference will be held on June 29 - July 2, 2016, in Raleigh, North Carolina, USA.

Individual papers

Invited Talks

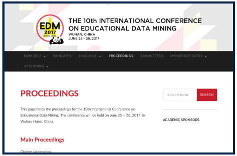
Data-Driven Education: Some opportunities and Challenges
Rakesh Agrawal

WISE Ways to Strengthen Inquiry Science Learning
Marcia Linn (presentation)

Enabling people to harness and control EDM for lifelong, life-wide learning
Judy Kay

Organized by the International Educational Data Mining Society (IEDMS).

Sponsors


EDM 2017
EDM 2017 / KEYNOTES / SCHEDULE / PROCEEDINGS / COMMITTEES / IMPORTANT DATES / ATTENDING
Search form
SEARCH

THE 10th INTERNATIONAL CONFERENCE ON EDUCATIONAL DATA MINING
WUHAN, CHINA
JUNE 25 - 28, 2017

PROCEEDINGS

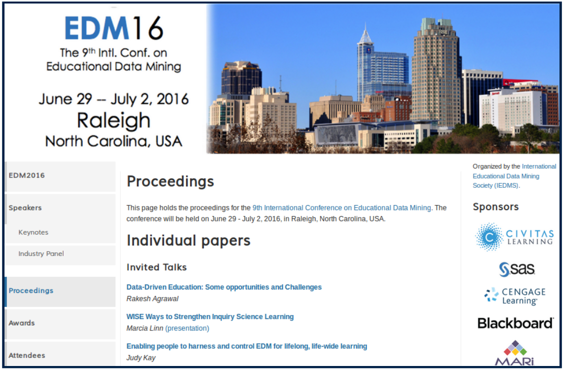
This page holds the proceedings for the 10th International Conference on Educational Data Mining. The conference will be held on June 25 – 28, 2017, in Wuhan, Hubei, China.

ACADEMIC SPONSORS

Main Proceedings

Citation Information:

Sources of Raw Digital Data



EDM16

The 9th Intl. Conf. on Educational Data Mining

June 29 -- July 2, 2016

Raleigh

North Carolina, USA

- EDM2016
- Speakers
  - Keynotes
  - Industry Panel
- Proceedings
- Awards
- Attendees

Proceedings

This page holds the proceedings for the 9th International Conference on Educational Data Mining. The conference will be held on June 29 - July 2, 2016, in Raleigh, North Carolina, USA.

Individual papers

Invited Talks

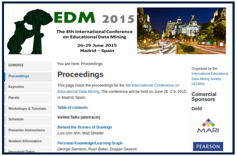
Data-Driven Education: Some opportunities and Challenges
Rakesh Agrawal

WISE Ways to Strengthen Inquiry Science Learning
Marcia Linn (presentation)

Enabling people to harness and control EDM for lifelong, life-wide learning
Judy Kay

Organized by the International Educational Data Mining Society (IEDMS).

Sponsors



EDM 2015

The 8th International Conference on Educational Data Mining

26-29 June 2015
Madrid - Spain

- EDM2015
- Proceedings
- Keynotes
- Panels
- Workshops & Tutorials
- Schedule
- Presenter Instructions
- Student Information
- Important Dates

You are here: Proceedings

Proceedings

This page holds the proceedings for the 8th International Conference on Educational Data Mining. The conference will be held on June 26 -2 9, 2015, in Madrid, Spain.

Table of contents

Invited Talks (abstracts)

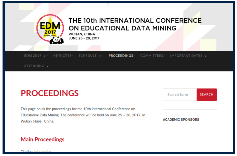
Behind the Scenes of Duolingo
Luis Von Ahn, Matt Streeter

Personal Knowledge/Learning Graph
George Siemens, Ryan Baker, Dragan Gasevic

Organized by the International Educational Data Mining Society (IEDMS).

Comercial Sponsors

Gold



THE 10th INTERNATIONAL CONFERENCE ON EDUCATIONAL DATA MINING

WUHAN, CHINA
JUNE 25 - 28, 2017

EDM 2017
EDM 2017 / KEYNOTES / SCHEDULE / PROCEEDINGS / COMMITTEES / IMPORTANT DATES / ATTENDING
Search form
SEARCH

PROCEEDINGS

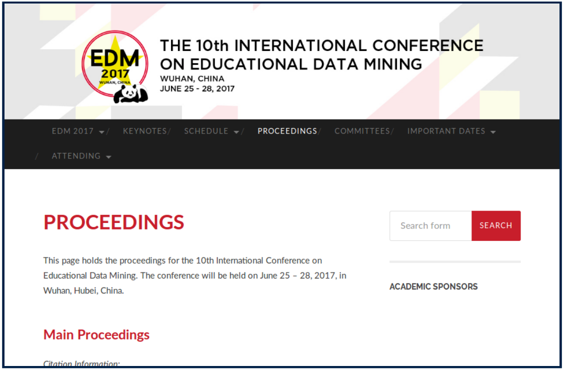
This page holds the proceedings for the 10th International Conference on Educational Data Mining. The conference will be held on June 25 – 28, 2017, in Wuhan, Hubei, China.

ACADEMIC SPONSORS

Main Proceedings

Citation Information:

Sources of Raw Digital Data



THE 10th INTERNATIONAL CONFERENCE ON EDUCATIONAL DATA MINING
WUHAN, CHINA
JUNE 25 - 28, 2017

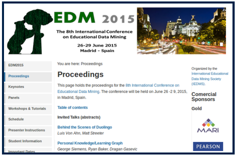
PROCEEDINGS

This page holds the proceedings for the 10th International Conference on Educational Data Mining. The conference will be held on June 25 – 28, 2017, in Wuhan, Hubei, China.

ACADEMIC SPONSORS

Main Proceedings

Citation Information:



EDM 2015
The 8th International Conference on Educational Data Mining
26-29 June 2015
Madrid - Spain

You are here: Proceedings

Proceedings

This page holds the proceedings for the 8th International Conference on Educational Data Mining. The conference will be held on June 26 -2 9, 2015, in Madrid, Spain.

Table of contents

Invited Talks (abstracts)

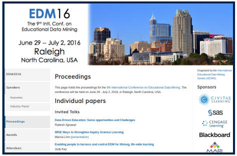
Behind the Scenes of Duolingo
Luis Von Ahn, Matt Streeter

Personal Knowledge/Learning Graph
George Siemens, Ryan Baker, Dragan Gasevic

Organized by the International Educational Data Mining Society (IEDMS).

Comercial Sponsors

Gold



EDM16
The 9th Intl. Conf. on Educational Data Mining
June 29 – July 2, 2016
Raleigh
North Carolina, USA

Proceedings

This page holds the proceedings for the 9th International Conference on Educational Data Mining. The conference will be held on June 29 - July 2, 2016, in Raleigh, North Carolina, USA.

Individual papers

Invited Talks

Data-Driven Education: Some opportunities and Challenges
Rakesh Agrawal

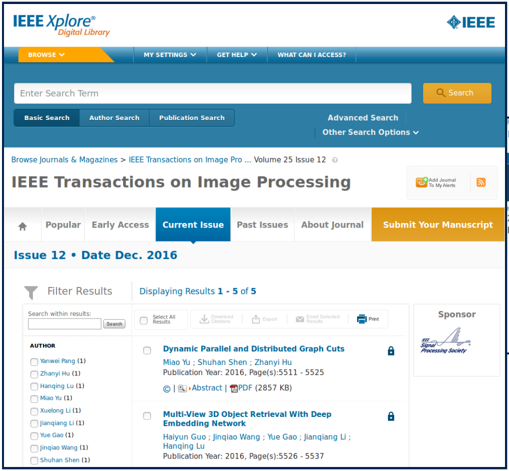
WISE Ways to Strengthen Inquiry Science Learning
Marcia Linn (presentation)

Enabling people to harness and control EDM for lifelong, life-wide learning
Judy Kay

Organized by the International Educational Data Mining Society (IEDMS).

Sponsors

Sources of Raw Digital Data



IEEE Xplore® Digital Library | IEEE

BROWSE | MY SETTINGS | GET HELP | WHAT CAN I ACCESS?

Enter Search Term | Search

Basic Search | Author Search | Publication Search | Advanced Search | Other Search Options

Browse Journals & Magazines > IEEE Transactions on Image Pro ... Volume 25 Issue 12

IEEE Transactions on Image Processing

Add Journal To My Alerts

Popular | Early Access | Current Issue | Past Issues | About Journal | Submit Your Manuscript

Issue 12 • Date Dec. 2016

Filter Results | Displaying Results **1 - 5** of **5**

Search within results: Search

□ Select All Results | Download Citations | Export | Email Selected Results | Print

AUTHOR

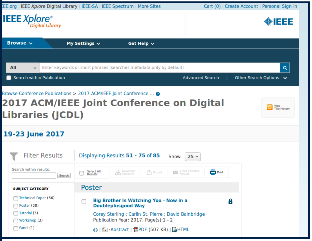
- □ Yanwei Pang (1)
- □ Zhanyi Hu (1)
- □ Hanqing Lu (1)
- □ Miao Yu (1)
- □ Xuelong Li (1)
- □ Jianqiang Li (1)
- □ Yue Gao (1)
- □ Jinqiao Wang (1)
- □ Shuhan Shen (1)

□ **Dynamic Parallel and Distributed Graph Cuts**
Miao Yu ; Shuhan Shen ; Zhanyi Hu
Publication Year: 2016, Page(s):5511 - 5525
© | Abstract | PDF (2857 KB)

□ **Multi-View 3D Object Retrieval With Deep Embedding Network**
Haiyun Guo ; Jinqiao Wang ; Yue Gao ; Jianqiang Li ; Hanqing Lu
Publication Year: 2016, Page(s):5526 - 5537

Sponsor

IEEE Signal Processing Society



EE.org | IEEE *Xplore* Digital Library | IEEE-SA | IEEE Spectrum | More Sites | Cart (0) | Create Account | Personal Sign In

IEEE Xplore® Digital Library | IEEE

Browse | My Settings | Get Help

All | Enter keywords or short phrases (searches metadata only by default)

□ Search within Publication | Advanced Search | Other Search Options

Browse Conference Publications > 2017 ACM/IEEE Joint Conference ...

2017 ACM/IEEE Joint Conference on Digital Libraries (JCDL)

View Title History

19-23 June 2017

Filter Results | Displaying Results **51 - 75** of **85** | Show: 25

Search within results: Search

□ Select All Results | Download Citations | Export | Email Selected Results | Print

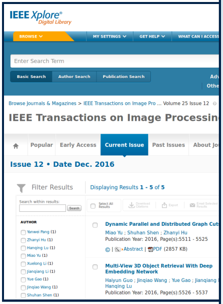
SUBJECT CATEGORY

- □ Technical Paper (36)
- □ Poster (30)
- □ Tutorial (3)
- □ Workshop (3)
- □ Panel (1)

Poster

□ **Big Brother Is Watching You - Now in a Doubleplusgood Way**
Corey Sterling ; Carlin St. Pierre ; David Bainbridge
Publication Year: 2017, Page(s):1 - 2
© | Abstract | PDF (507 KB) | HTML

Sources of Raw Digital Data



Browse Journals & Magazines > IEEE Transactions on Image Pro ... Volume 25 Issue 12

IEEE Transactions on Image Processin

Issue 12 • Date Dec. 2016

Filter Results | Displaying Results **1 - 5 of 5**

Search within results: Search

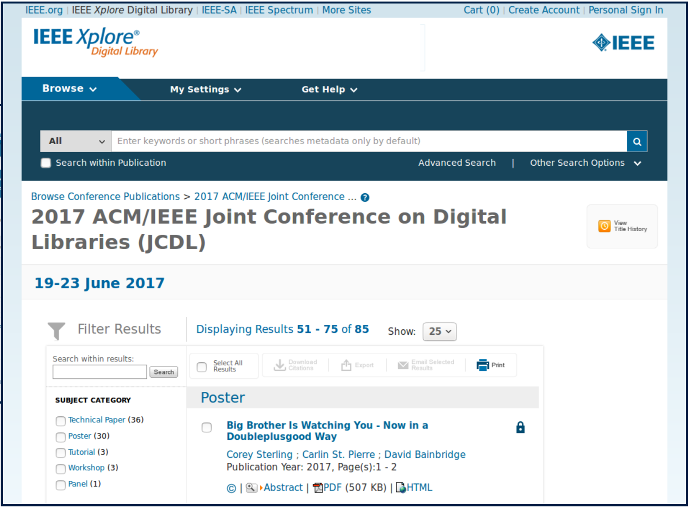
□ Select All Results | Download Citations | Export | Email Selected Results

AUTHOR

- □ Yanwei Pang (1)
- □ Zhanyi Hu (1)
- □ Hanqing Lu (1)
- □ Miao Yu (1)
- □ Xuelong Li (1)
- □ Jianqiang Li (1)
- □ Yue Gao (1)
- □ Jinqiao Wang (1)
- □ Shuhan Shen (1)

□ **Dynamic Parallel and Distributed Graph Cut**
Miao Yu ; Shuhan Shen ; Zhanyi Hu
Publication Year: 2016, Page(s):5511 - 5525
© | Abstract | PDF (2857 KB)

□ **Multi-View 3D Object Retrieval With Deep Embedding Network**
Haiyun Guo ; Jinqiao Wang ; Yue Gao ; Jianqiang
Hanqing Lu
Publication Year: 2016, Page(s):5526 - 5537


IEEE.org | IEEE Xplore Digital Library | IEEE-SA | IEEE Spectrum | More Sites
Cart (0) | Create Account | Personal Sign In
IEEE Xplore® Digital Library
IEEE
Browse
My Settings
Get Help
All
Enter keywords or short phrases (searches metadata only by default)
Search within Publication
Advanced Search | Other Search Options

Browse Conference Publications > 2017 ACM/IEEE Joint Conference ...

2017 ACM/IEEE Joint Conference on Digital Libraries (JCDL)

19-23 June 2017

Filter Results | Displaying Results **51 - 75 of 85** | Show: 25

Search within results: Search

□ Select All Results | Download Citations | Export | Email Selected Results | Print

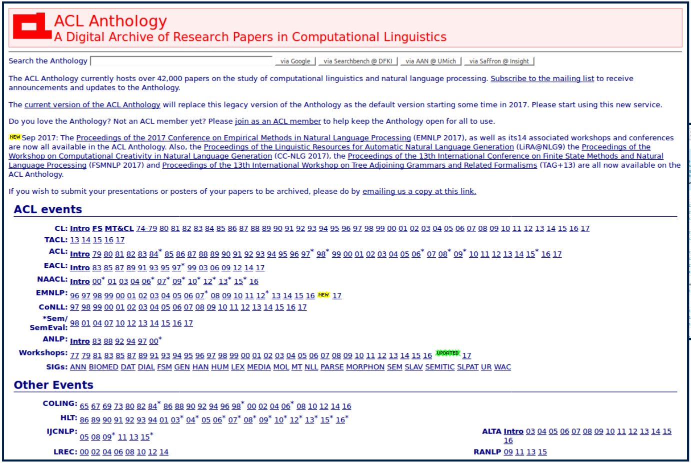
SUBJECT CATEGORY

- □ Technical Paper (36)
- □ Poster (30)
- □ Tutorial (3)
- □ Workshop (3)
- □ Panel (1)

Poster

□ **Big Brother Is Watching You - Now in a Doubleplusgood Way**
Corey Sterling ; Carlin St. Pierre ; David Bainbridge
Publication Year: 2017, Page(s):1 - 2
© | Abstract | PDF (507 KB) | HTML

Sources of Raw Digital Data



ACL Anthology
A Digital Archive of Research Papers in Computational Linguistics

Search the Anthology [ ] via Google | via Searchbench @ DFKI | via AAN @ UMich | via Saffron @ Insight

The ACL Anthology currently hosts over 42,000 papers on the study of computational linguistics and natural language processing. Subscribe to the mailing list to receive announcements and updates to the Anthology.

The current version of the ACL Anthology will replace this legacy version of the Anthology as the default version starting some time in 2017. Please start using this new service.

Do you love the Anthology? Not an ACL member yet? Please join as an ACL member to help keep the Anthology open for all to use.

NEW Sep 2017: The Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing (EMNLP 2017), as well as its14 associated workshops and conferences are now all available in the ACL Anthology. Also, the Proceedings of the Linguistic Resources for Automatic Natural Language Generation (LiRA@NLG9) the Proceedings of the Workshop on Computational Creativity in Natural Language Generation (CC-NLG 2017), the Proceedings of the 13th International Conference on Finite State Methods and Natural Language Processing (FSMNLP 2017) and Proceedings of the 13th International Workshop on Tree Adjoining Grammars and Related Formalisms (TAG+13) are all now available on the ACL Anthology.

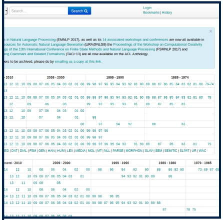
If you wish to submit your presentations or posters of your papers to be archived, please do by emailing us a copy at this link.

ACL events

CL:	Intro FS MT&CL 74-79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17
TACL:	13 14 15 16 17
ACL:	Intro 79 80 81 82 83 84* 85 86 87 88 89 90 91 92 93 94 95 96 97* 98* 99 00 01 02 03 04 05 06* 07 08* 09* 10 11 12 13 14 15* 16 17
EACL:	Intro 83 85 87 89 91 93 95 97* 99 03 06 09 12 14 17
NAACL:	Intro 00* 01 03 04 06* 07* 09* 10* 12* 13* 15* 16
EMNLP:	96 97 98 99 00 01 02 03 04 05 06 07* 08 09 10 11 12* 13 14 15 16 NEW 17
CoNLL:	97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17
*Sem/ SemEval:	98 01 04 07 10 12 13 14 15 16 17
ANLP:	Intro 83 88 92 94 97 00*
Workshops:	77 79 81 83 85 87 89 91 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 UPDATED 17
SIGs:	ANN BIOMED DAT DIAL FSM GEN HAN HUM LEX MEDIA MOL MT NLL PARSE MORPHON SEM SLAV SEMITIC SLPAT UR WAC

Other Events

COLING:	65 67 69 73 80 82 84* 86 88 90 92 94 96 98* 00 02 04 06* 08 10 12 14 16		
HLT:	86 89 90 91 92 93 94 01 03* 04* 05 06* 07* 08* 09* 10* 12* 13* 15* 16*		
IJCNLP:	05 08 09* 11 13 15*	ALTA	Intro 03 04 05 06 07 08 09 10 11 12 13 14 15 16
LREC:	00 02 04 06 08 10 12 14	RANLP	09 11 13 15



Search... Search
Login
Bookmarks | History

s in Natural Language Processing (EMNLP 2017), as well as its 14 associated workshops and conferences are now all available in
sources for Automatic Natural Language Generation (LiRA@NLG9) the Proceedings of the Workshop on Computational Creativity
gs of the 13th International Conference on Finite State Methods and Natural Language Processing (FSMNLP 2017) and
ing Grammars and Related Formalisms (TAG+13) are all now available on the ACL Anthology.

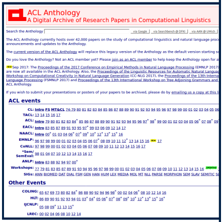
ers to be archived, please do by emailing us a copy at this link.

- 2010	2009 - 2000	1999 - 1990	1989 - 1974
13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 97 96 95 94 93 92 91 90	89 88 87 86 85 84 83 82 81 80 79-74
13			
13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 97 96 95 94 93 92 91 90	89 88 87 86 85 84 83 82 81 80 79
12	09 06 03	99 97 95 93 91	89 87 85 83
13 12 10	09 07 06 04 03 01 00		
13 12 10	07 04 01	98	
	00	97 94 92	88 83
13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 97 96	
13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 97	
13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 97 96 95 94 93 91 90	89 87 85 83 81 79

ED | DAT | DIAL | FSM | GEN | HAN | HUM | LEX | MEDIA | MOL | MT | NLL | PARSE | MORPHON | SLAV | SEM | SEMITIC | SLPAT | UR | WAC

sent - 2010	2009 - 2000	1999 - 1990	1989 - 1980	1979 - 1965
14 12 10	08 06 04 02 00	98 96 94 92 90	88 86 82 80	73 69 67 65
13 12 10	09 08 07 06 05 04 03 01	94 93 92 91 90	89 86	
13 11	09 08 05			
14 12 10	08 06 04 02 00			
14 13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 96 95		
14 13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 97 96 95 94 93 92 91 90	89 88	
			87	78 75
14 13 12 11 10	09 08 07 06 05 04 03			

Sources of Raw Digital Data



ACL Anthology
A Digital Archive of Research Papers in Computational Linguistics

The ACL Anthology currently hosts over 42,000 papers on the study of computational linguistics and natural language proc
announcements and updates to the Anthology.

The current version of the ACL Anthology will replace this legacy version of the Anthology as the default version starting so

Do you love the Anthology? Not an ACL member yet? Please join as an ACL member to help keep the Anthology open for a

NEW Sep 2017: The Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing (EMNLP 2017)
are now all available in the ACL Anthology. Also, the Proceedings of the Linguistic Resources for Automatic Natural Languag
Workshop on Computational Creativity in Natural Language Generation (CC-NLG 2017), the Proceedings of the 13th Interna
Language Processing (FSMNLP 2017) and Proceedings of the 13th International Workshop on Tree Adjoining Grammars and
ACL Anthology.

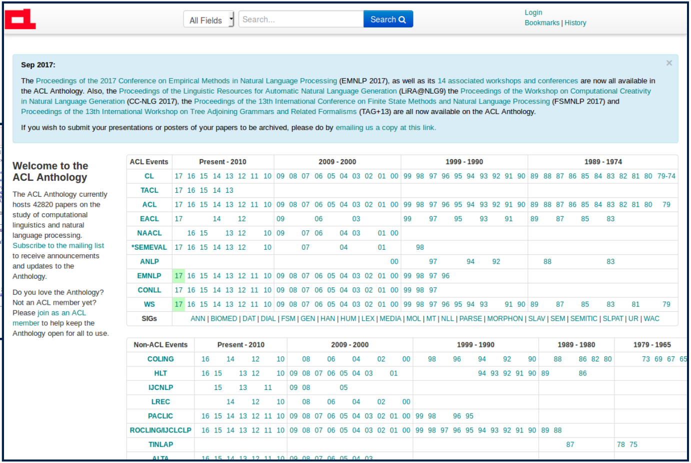
If you wish to submit your presentations or posters of your papers to be archived, please do by emailing us a copy at this li

ACL events

CL:	Intro FS MT&CL 74-79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06
TACL:	13 14 15 16 17
ACL:	Intro 79 80 81 82 83 84* 85 86 87 88 89 90 91 92 93 94 95 96 97* 98* 99 00 01 02 03 04 05 06* 07 08* 09*
EACL:	Intro 83 85 87 89 91 93 95 97* 99 03 06 09 12 14 17
NAACL:	Intro 00* 01 03 04 06* 07* 09* 10* 12* 13* 15* 16
EMNLP:	96 97 98 99 00 01 02 03 04 05 06 07* 08 09 10 11 12* 13 14 15 16 NEW 17
CoNLL:	97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17
*Sem/ SemEval:	98 01 04 07 10 12 13 14 15 16 17
ANLP:	Intro 83 88 92 94 97 00*
Workshops:	77 79 81 83 85 87 89 91 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 UPDATED
SIGs:	ANN BIOMED DAT DIAL FSM GEN HAN HUM LEX MEDIA MOL MT NLL PARSE MORPHON SEM SLAV SEMITIC SL

Other Events

COLING:	65 67 69 73 80 82 84* 86 88 90 92 94 96 98* 00 02 04 06* 08 10 12 14 16
HLT:	86 89 90 91 92 93 94 01 03* 04* 05 06* 07* 08* 09* 10* 12* 13* 15* 16*
IJCNLP:	05 08 09* 11 13 15*
LREC:	00 02 04 06 08 10 12 14



Sep 2017:

The Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing (EMNLP 2017), as well as its 14 associated workshops and conferences are now all available in the ACL Anthology. Also, the Proceedings of the Linguistic Resources for Automatic Natural Language Generation (LiRA@NLG9) the Proceedings of the Workshop on Computational Creativity in Natural Language Generation (CC-NLG 2017), the Proceedings of the 13th International Conference on Finite State Methods and Natural Language Processing (FSMNLP 2017) and Proceedings of the 13th International Workshop on Tree Adjoining Grammars and Related Formalisms (TAG+13) are all now available on the ACL Anthology.

If you wish to submit your presentations or posters of your papers to be archived, please do by emailing us a copy at this link.

Welcome to the ACL Anthology

The ACL Anthology currently hosts 42820 papers on the study of computational linguistics and natural language processing. Subscribe to the mailing list to receive announcements and updates to the Anthology.

Do you love the Anthology? Not an ACL member yet? Please join as an ACL member to help keep the Anthology open for all to use.

ACL Events	Present - 2010	2009 - 2000	1999 - 1990	1989 - 1974
CL	17 16 15 14 13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 97 96 95 94 93 92 91 90	89 88 87 86 85 84 83 82 81 80 79-74
TACL	17 16 15 14 13			
ACL	17 16 15 14 13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 97 96 95 94 93 92 91 90	89 88 87 86 85 84 83 82 81 80 79
EACL	17 14 12	09 06 03	99 97 95 93 91	89 87 85 83
NAACL	16 15 13 12 10	09 07 06 04 03 01 00		
*SEMEVAL	17 16 15 14 13 12 10	07 04 01	98	
ANLP		00	97 94 92	88 83
EMNLP	17 16 15 14 13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 97 96	
CONLL	17 16 15 14 13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 97	
WS	17 16 15 14 13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 97 96 95 94 93 91 90	89 87 85 83 81 79
SIGs	ANN | BIOMED | DAT | DIAL | FSM | GEN | HAN | HUM | LEX | MEDIA | MOL | MT | NLL | PARSE | MORPHON | SLAV | SEM | SEMITIC | SLPAT | UR | WAC			

Non-ACL Events	Present - 2010	2009 - 2000	1999 - 1990	1989 - 1980	1979 - 1965
COLING	16 14 12 10	08 06 04 02 00	98 96 94 92 90	88 86 82 80	73 69 67 65
HLT	16 15 13 12 10	09 08 07 06 05 04 03 01	94 93 92 91 90	89 86	
IJCNLP	15 13 11	09 08 05			
LREC	14 12 10	08 06 04 02 00			
PACLIC	16 15 14 13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 96 95		
ROCLING/IJCLCLP	16 15 14 13 12 11 10	09 08 07 06 05 04 03 02 01 00	99 98 97 96 95 94 93 92 91 90	89 88	
TINLAP				87	78 75
ALTA	16 15 14 13 12 11 10	09 08 07 06 05 04 03			

Problem of Data Heterogeneity

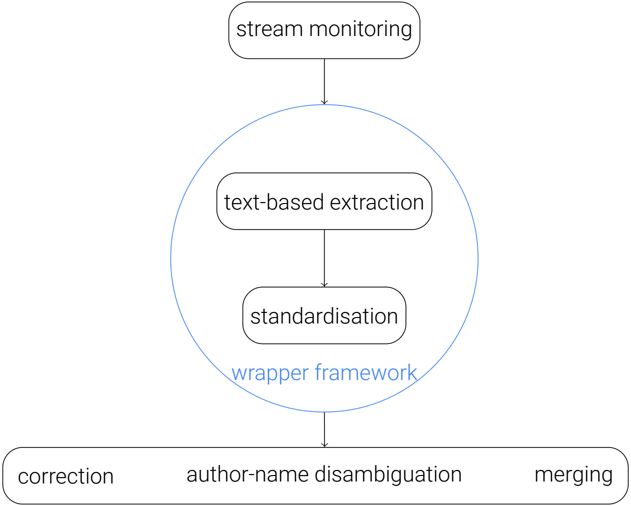
Sources of raw bibliographic data vary largely in quality and format, e.g.:

- website layouts
- change

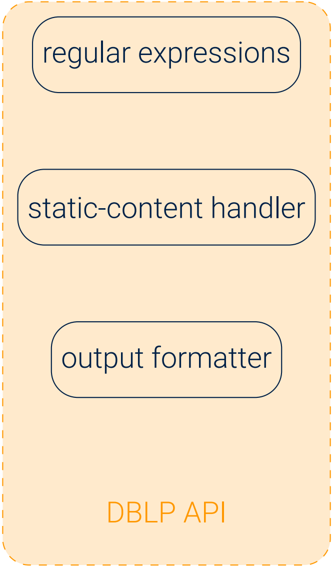
Problem of Data Integration

- question of feasibility: automated vs. manual harvesting
- expensive maintenance

DBLP as a Case Example



DBLP as a Case Example



regular expressions

static-content handler

output formatter

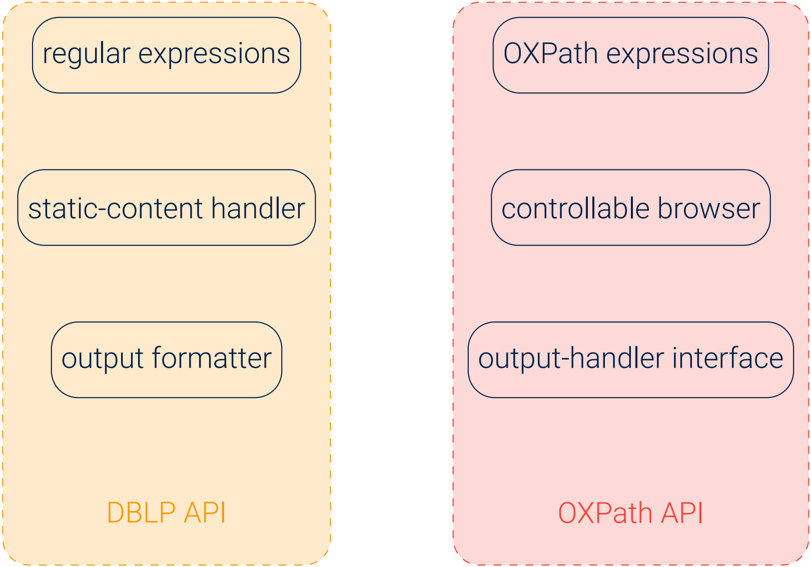
DBLP API

Used across several steps, e.g.:

- publisher-key validation
- retrieving lists of issues
- retrieving tables of content
- retrieving records:

```
<tr[^>]*>.*?</tr>
```

DBLP as a Case Example



regular expressions

static-content handler

output formatter

DBLP API

OXPath expressions

controllable browser

output-handler interface

OXPath API

DBLP Author-Name Disambiguation

Disambiguating author names while inserting new raw publication record:

- simple, global search for matching names (entire database)
- reduce candidate set
- search for additional candidates, weighted additive factors:
  - co-author graph (similar names in vicinity)

Example: Co-Author Graphs

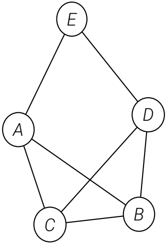


Figure 1: Co-Author Graph for dblp

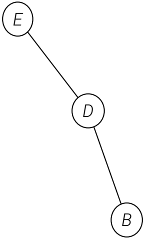


Figure 2: Partial graph for new record

Example: Co-Author Graphs

Disambiguating author names while inserting new raw publication record:

- simple, global search for matching names (entire database)
- reduce candidate set
- search for additional candidates, weighted additive factors:
  - co-author graph (similar names in vicinity)
  - stream activity (similar journal, conference)
  - publication year activity
  - publication topic
- rating of candidate set for each author of the new publication
- manual post-processing of ranked list of candidates with dblpi

Table of Contents

1 Project Profile: Smart Harvesting II

2 Maintaining Scientific Literature Databases

3 OXPath

4 Monitoring

5 Examples

6 Demonstration

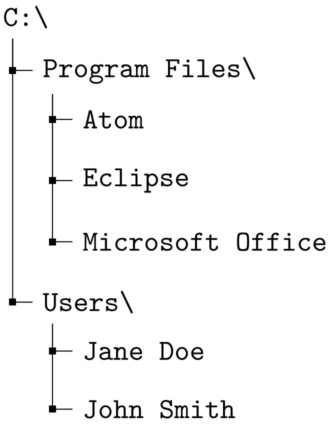
What Is OXPath?

- simple, declarative language for web data extraction
- XPath extension:
  - actions
  - iteration
  - extraction

What Is XPath?

- query language
- XML document as a tree of nodes
- XPath expressions as location paths

What Is XPath?



C:\

Program Files\

Atom

Eclipse

Microsoft Office

Users\

Jane Doe

John Smith

File-Path Examples

```
C:\Program Files\Microsoft Office
C:\Users\Jane Doe
```

What Is XPath?

Queried XML File

```xml
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <record class="current">
    <volume>30</volume>
    <issue>11</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/11</url>
  </record>
  <record>
    <volume>30</volume>
    <issue>10</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/10</url>
  </record>
  <record>
    <volume>30</volume>
    <issue>9</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/9</url>
  </record>
</results>
```

XPath Expression

```
/results/record/issue
```

Result Set

What Is XPath?

Queried XML File

```xml
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <record class="current">
    <volume>30</volume>
    <issue>11</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/11</url>
  </record>
  <record>
    <volume>30</volume>
    <issue>10</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/10</url>
  </record>
  <record>
    <volume>30</volume>
    <issue>9</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/9</url>
  </record>
</results>
```

XPath Expression

```
/results/record/issue
```

Result Set

```
(
  <issue>11</issue>,
  <issue>10</issue>,
  <issue>9</issue>
)
```

What Is XPath?

Queried XML File

```xml
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <record class="current">
    <volume>30</volume>
    <issue>11</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/11</url>
  </record>
  <record>
    <volume>30</volume>
    <issue>10</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/10</url>
  </record>
  <record>
    <volume>30</volume>
    <issue>9</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/9</url>
  </record>
</results>
```

XPath Expression

```
/results/record/url/text()
```

Result Set

What Is XPath?

Queried XML File

```xml
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <record class="current">
    <volume>30</volume>
    <issue>11</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/11</url>
  </record>
  <record>
    <volume>30</volume>
    <issue>10</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/10</url>
  </record>
  <record>
    <volume>30</volume>
    <issue>9</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/9</url>
  </record>
</results>
```

XPath Expression

```
/results/record/url/text()
```

Result Set

```
(
  "http://.../toc/tadr20/30/11",
  "http://.../toc/tadr20/30/10",
  "http://.../toc/tadr20/30/9"
)
```

What Is XPath?

Queried XML File

```xml
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <record class="current">
    <volume>30</volume>
    <issue>11</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/11</url>
  </record>
  <record>
    <volume>30</volume>
    <issue>10</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/10</url>
  </record>
  <record>
    <volume>30</volume>
    <issue>9</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/9</url>
  </record>
</results>
```

XPath Expression

```
/results/record[@class="current"]
```

Result Set

What Is XPath?

Queried XML File

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <record class="current">
    <volume>30</volume>
    <issue>11</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/11</url>
  </record>
  <record>
    <volume>30</volume>
    <issue>10</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/10</url>
  </record>
  <record>
    <volume>30</volume>
    <issue>9</issue>
    <year>2016</year>
    <url>http://.../tadr20/30/9</url>
  </record>
</results>
```

XPath Expression

```
/results/record[@class="current"]
```

Result Set

```
(
  <record class="current">
    <volume>30</volume>
    <issue>11</issue>
    <year>2016</year>
    <url>[...]</url>
  </record>
)
```

What Does OXPath Add?

Action:

- fill in forms
- click links, buttons, etc.

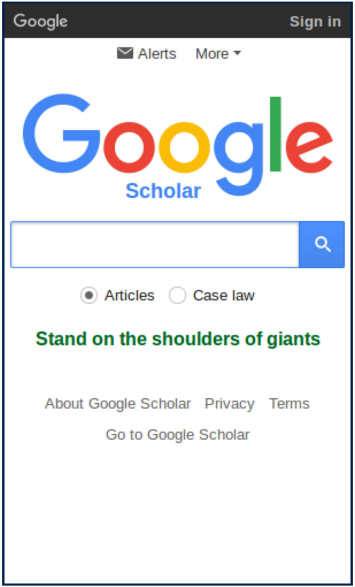
Extraction:

- add markers to extract selected nodes

Iteration:

- loops, e.g. for paginated content

Example: Navigating Google Scholar


Google Sign in

Alerts More

Google Scholar

● Articles ○ Case law

Stand on the shoulders of giants

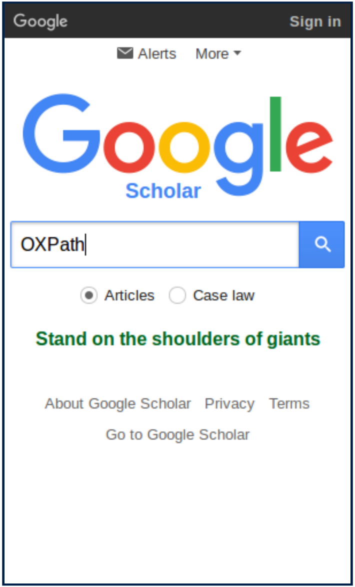
About Google Scholar Privacy Terms

Go to Google Scholar

OXPath Expression

```
doc('https://scholar.google.com')
```

Example: Navigating Google Scholar

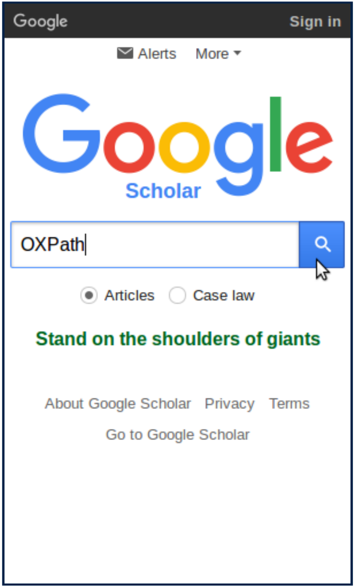


OXPath

OXPath Expression

```
doc('https://scholar.google.com')
  //input[@id='gs_hdr_tsi']/{"OXPath"}
```

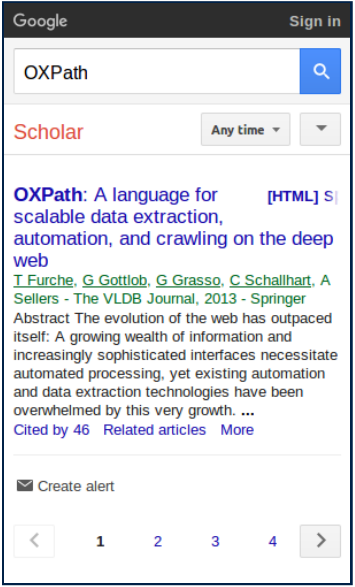
Example: Navigating Google Scholar



OXPath Expression

```
doc('https://scholar.google.com')
  //input[@id='gs_hdr_tsi']/{"OXPath"}
  /../following-sibling::button/{click/}
```

Example: Navigating Google Scholar



Google Sign in

OXPath

Scholar Any time

OXPath: A language for scalable data extraction, automation, and crawling on the deep web [HTML] S

T Furche, G Gottlob, G Grasso, C Schallhart, A Sellers - The VLDB Journal, 2013 - Springer

Abstract The evolution of the web has outpaced itself: A growing wealth of information and increasingly sophisticated interfaces necessitate automated processing, yet existing automation and data extraction technologies have been overwhelmed by this very growth. ...

Cited by 46 Related articles More

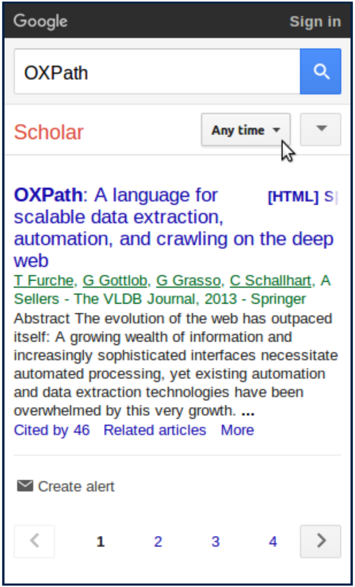
Create alert

< 1 2 3 4 >

OXPath Expression

```
doc('https://scholar.google.com')
  //input[@id='gs_hdr_tsi']/{"OXPath"}
  /../following-sibling::button/{click/}
```

Example: Navigating Google Scholar



OXPath: A language for scalable data extraction, automation, and crawling on the deep web

T Furche, G Gottlob, G Grasso, C Schallhart, A Sellers - The VLDB Journal, 2013 - Springer

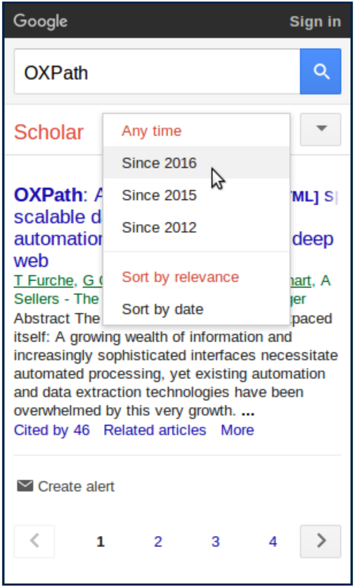
Abstract The evolution of the web has outpaced itself: A growing wealth of information and increasingly sophisticated interfaces necessitate automated processing, yet existing automation and data extraction technologies have been overwhelmed by this very growth. ...

Cited by 46 Related articles More

OXPath Expression

```
doc('https://scholar.google.com')
  //input[@id='gs_hdr_tsi']/{"OXPath"}
  /../following-sibling::button/{click/}
    //*[@id='gs_res_ab_yy-b']/{click}
```

Example: Navigating Google Scholar

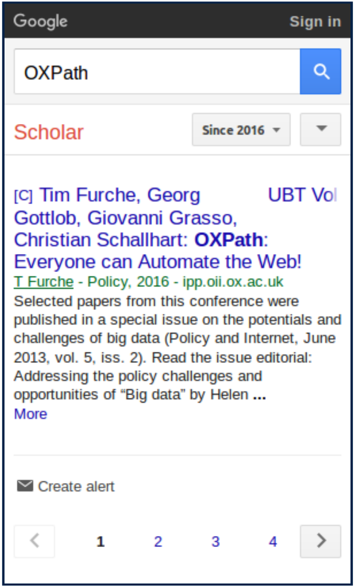


OXPath: A ML] S
scalable d
automatior deep
web
T Furche, G art, A
Sellers - The jer
Abstract The paced
itself: A growing wealth of information and increasingly sophisticated interfaces necessitate automated processing, yet existing automation and data extraction technologies have been overwhelmed by this very growth. ...

OXPath Expression

```
doc('https://scholar.google.com')
  //input[@id='gs_hdr_tsi']/{"OXPath"}
  /../following-sibling::button/{click/}
    //*[@id='gs_res_ab_yy-b']/{click}
      //following::*[@role='menuitemradio'][contains(.,
          '2016')]/{click/}
```

Example: Navigating Google Scholar



[C] Tim Furche, Georg Gottlob, Giovanni Grasso, Christian Schallhart: **OXPath**: Everyone can Automate the Web!

T Furche - Policy, 2016 - ipp.oii.ox.ac.uk

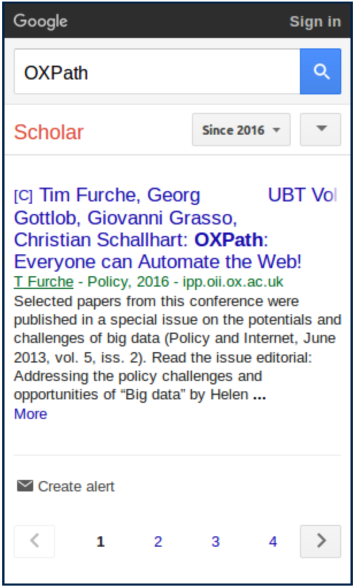
Selected papers from this conference were published in a special issue on the potentials and challenges of big data (Policy and Internet, June 2013, vol. 5, iss. 2). Read the issue editorial: Addressing the policy challenges and opportunities of “Big data” by Helen **...**

More

OXPath Expression

```
doc('https://scholar.google.com')
  //input[@id='gs_hdr_tsi']/{"OXPath"}
  /../following-sibling::button/{click/}
    //*[@id='gs_res_ab_yy-b']/{click}
      //following::*[@role='menuitemradio'][contains(.,
          '2016')]/{click/}
```

Example: Navigating Google Scholar



[C] Tim Furche, Georg Gottlob, Giovanni Grasso, Christian Schallhart: **OXPath**: Everyone can Automate the Web! UBT Vol

T Furche - Policy, 2016 - ipp.oii.ox.ac.uk

Selected papers from this conference were published in a special issue on the potentials and challenges of big data (Policy and Internet, June 2013, vol. 5, iss. 2). Read the issue editorial: Addressing the policy challenges and opportunities of “Big data” by Helen **...**

More

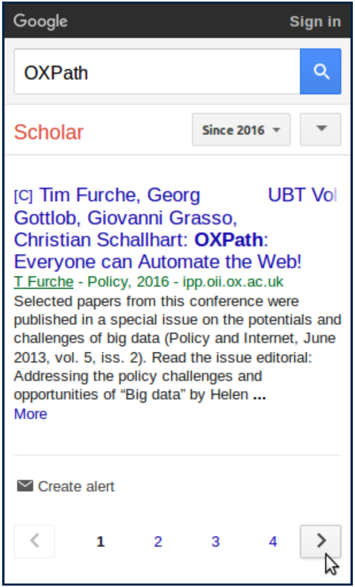
OXPath Expression

```
doc('https://scholar.google.com')
  //input[@id='gs_hdr_tsi']/{"OXPath"}
  /../following-sibling::button/{click/}
    //*[@id='gs_res_ab_yy-b']/{click}
      //following::*[@role='menuitemradio'][contains(.,
           '2016')]/{click/}
    //div[@class='gs_ri']//h3/a:<title=string(.)>
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <title>Tim Furche, Georg Gottlob, [...]</title>
</results>
```

Example: Navigating Google Scholar



[C] Tim Furche, Georg Gottlob, Giovanni Grasso, Christian Schallhart: **OXPath**: Everyone can Automate the Web!

UBT Vol

T Furche - Policy, 2016 - ipp.oii.ox.ac.uk

Selected papers from this conference were published in a special issue on the potentials and challenges of big data (Policy and Internet, June 2013, vol. 5, iss. 2). Read the issue editorial: Addressing the policy challenges and opportunities of "Big data" by Helen **...**

More

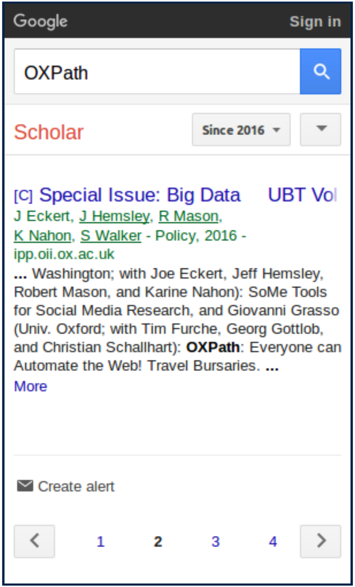
OXPath Expression

```
doc('https://scholar.google.com')
 //input[@id='gs_hdr_tsi']/{"OXPath"}
 /../following-sibling::button/{click/}
  //*[@id='gs_res_ab_yy-b']/{click}
   //following::*[@role='menuitemradio'][contains(.,
       '2016')]/{click/}
  /(//*[@id='gs_nm']/button[2][not(@disabled)]/{click/})*
   //div[@class='gs_ri']//h3/a:<title=string(.)>
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
 <title>Tim Furche, Georg Gottlob, [...]</title>
</results>
```

Example: Navigating Google Scholar



[C] Special Issue: Big Data UBT Vol
J Eckert, J Hemsley, R Mason,
K Nahon, S Walker - Policy, 2016 -
ipp.oii.ox.ac.uk

... Washington; with Joe Eckert, Jeff Hemsley, Robert Mason, and Karine Nahon): SoMe Tools for Social Media Research, and Giovanni Grasso (Univ. Oxford; with Tim Furche, Georg Gottlob, and Christian Schallhart): **OXPath**: Everyone can Automate the Web! Travel Bursaries. ...

More

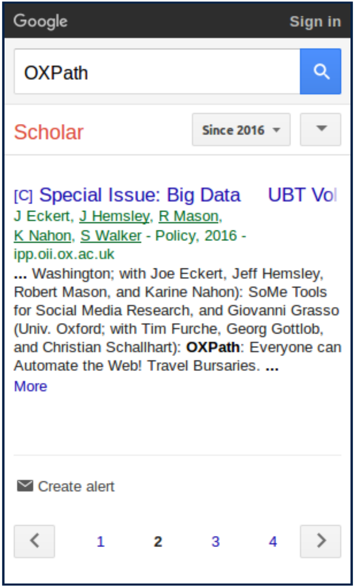
OXPath Expression

```
doc('https://scholar.google.com')
 //input[@id='gs_hdr_tsi']/{"OXPath"}
 /../following-sibling::button/{click/}
   //*[@id='gs_res_ab_yy-b']/{click}
     //following::*[@role='menuitemradio'][contains(.,
          '2016')]/{click/}
   /(//*[@id='gs_nm']/button[2][not(@disabled)]/{click/})*
     //div[@class='gs_ri']//h3/a:<title=string(.)>
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <title>Tim Furche, Georg Gottlob, [...]</title>
</results>
```

Example: Navigating Google Scholar



[C] Special Issue: Big Data UBT Vol
J Eckert, J Hemsley, R Mason, K Nahon, S Walker - Policy, 2016 - ipp.oii.ox.ac.uk
... Washington; with Joe Eckert, Jeff Hemsley, Robert Mason, and Karine Nahon): SoMe Tools for Social Media Research, and Giovanni Grasso (Univ. Oxford; with Tim Furche, Georg Gottlob, and Christian Schallhart): **OXPath**: Everyone can Automate the Web! Travel Bursaries. ...
More

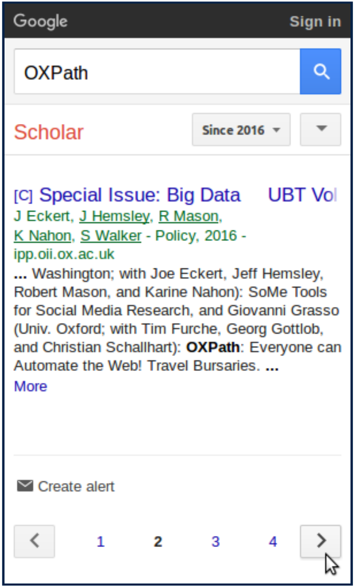
OXPath Expression

```
doc('https://scholar.google.com')
 //input[@id='gs_hdr_tsi']/{"OXPath"}
 /../following-sibling::button/{click/}
   //*[@id='gs_res_ab_yy-b']/{click}
     //following::*[@role='menuitemradio'][contains(.,
          '2016')]/{click/}
   /(//*[@id='gs_nm']/button[2][not(@disabled)]/{click/})*
     //div[@class='gs_ri']//h3/a:<title=string(.)>
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <title>Tim Furche, Georg Gottlob, [...]</title>
  <title>Special Issue: Big Data [...]</title>
</results>
```

Example: Navigating Google Scholar



[C] Special Issue: Big Data UBT Vol
J Eckert, J Hemsley, R Mason, K Nahon, S Walker - Policy, 2016 - ipp.oii.ox.ac.uk

... Washington; with Joe Eckert, Jeff Hemsley, Robert Mason, and Karine Nahon): SoMe Tools for Social Media Research, and Giovanni Grasso (Univ. Oxford; with Tim Furche, Georg Gottlob, and Christian Schallhart): **OXPath**: Everyone can Automate the Web! Travel Bursaries. ...

More

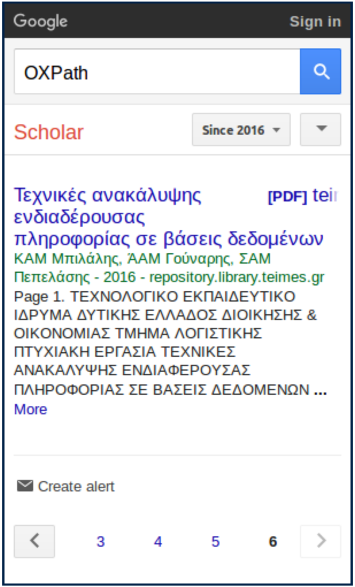
OXPath Expression

```
doc('https://scholar.google.com')
 //input[@id='gs_hdr_tsi']/{"OXPath"}
 /../following-sibling::button/{click/}
   //*[@id='gs_res_ab_yy-b']/{click}
     //following::*[@role='menuitemradio'][contains(.,
          '2016')]/{click/}
   /(//*[@id='gs_nm']/button[2][not(@disabled)]/{click/})*
     //div[@class='gs_ri']//h3/a:<title=string(.)>
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <title>Tim Furche, Georg Gottlob, [...]</title>
  <title>Special Issue: Big Data [...]</title>
  <!--[...]-->
</results>
```

Example: Navigating Google Scholar



Τεχνικές ανακάλυψης ενδιαδέρουσας πληροφορίας σε βάσεις δεδομένων

ΚΑΜ Μπιλάλης, ΆΑΜ Γούναρης, ΣΑΜ Πεπελάσης - 2016 - repository.library.teimes.gr

Page 1. ΤΕΧΝΟΛΟΓΙΚΟ ΕΚΠΑΙΔΕΥΤΙΚΟ ΙΔΡΥΜΑ ΔΥΤΙΚΗΣ ΕΛΛΑΔΟΣ ΔΙΟΙΚΗΣΗΣ & ΟΙΚΟΝΟΜΙΑΣ ΤΜΗΜΑ ΛΟΓΙΣΤΙΚΗΣ ΠΤΥΧΙΑΚΗ ΕΡΓΑΣΙΑ ΤΕΧΝΙΚΕΣ ΑΝΑΚΑΛΥΨΗΣ ΕΝΔΙΑΦΕΡΟΥΣΑΣ ΠΛΗΡΟΦΟΡΙΑΣ ΣΕ ΒΑΣΕΙΣ ΔΕΔΟΜΕΝΩΝ ...

OXPath Expression

```
doc('https://scholar.google.com')
  //input[@id='gs_hdr_tsi']/{"OXPath"}
  /../following-sibling::button/{click/}
    //*[@id='gs_res_ab_yy-b']/{click}
      //following::*[@role='menuitemradio'][contains(.,
           '2016')]/{click/}
    /(//*[@id='gs_nm']/button[2][not(@disabled)]/{click/})*
      //div[@class='gs_ri']//h3/a:<title=string(.)>
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <title>Tim Furche, Georg Gottlob, [...]</title>
  <title>Special Issue: Big Data [...]</title>
  <!--[...]-->
</results>
```

Why OXPath?

XPath

- static web
- plain HTML
- complete content

OXPath

- dynamic web
- AJAX
- content on demand

How Will OXPath Be Used?

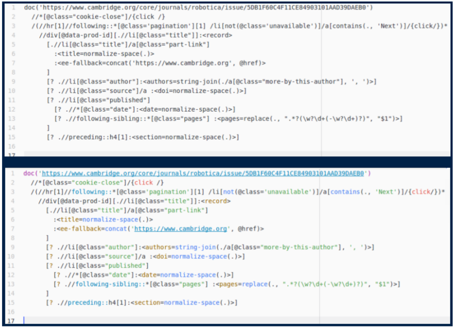
Provide working environment:

- integrate existing tools for XPath
- collect OXPath expressions prototypical of bibliographic domain
- devise and test OXPath expressions
- explore use of OXPath for stream monitoring

Tool support

Language plugin for Atom text editor

- Syntax highlighting for keywords
- Helps spotting errors and improves readability
- Intended to lower barriers for beginners



```
doc('https://www.cambridge.org/core/journals/robotica/issue/5DB1F60C4F11CE84903101AAD39DAEB0')
  //*[@class="cookie-close"]/{click /}
  /(//hr[1]//following::*[@class='pagination'][1] /li[not(@class='unavailable')]/a[contains(., 'Next')]/{click/})*
    //div[@data-prod-id][.//li[@class="title"]]:<record>
      [.//li[@class="title"]/a[@class="part-link"]
        :<title=normalize-space(.)>
        :<ee-fallback=concat('https://www.cambridge.org', @href)>
      ]
      [? .//li[@class="author"]:<authors=string-join(./a[@class="more-by-this-author"], ', ')>]
      [? .//li[@class="source"]/a :<doi=normalize-space(.)>]
      [? .//li[@class="published"]
        [? .//*[@class="date"]:<date=normalize-space(.)>]
        [? .//following-sibling::*[@class="pages"] :<pages=replace(., ".*?(\w?\d+(-\w?\d+)?)", "$1")>]
      ]
      [? .//preceding::h4[1]:<section=normalize-space(.)>]
```

```
doc('https://www.cambridge.org/core/journals/robotica/issue/5DB1F60C4F11CE84903101AAD39DAEB0')
  //*[@class="cookie-close"]/{click /}
  /(//hr[1]//following::*[@class='pagination'][1] /li[not(@class='unavailable')]/a[contains(., 'Next')]/{click/})*
    //div[@data-prod-id][.//li[@class="title"]]:<record>
      [.//li[@class="title"]/a[@class="part-link"]
        :<title=normalize-space(.)>
        :<ee-fallback=concat('https://www.cambridge.org', @href)>
      ]
      [? .//li[@class="author"]:<authors=string-join(./a[@class="more-by-this-author"], ', ')>]
      [? .//li[@class="source"]/a :<doi=normalize-space(.)>]
      [? .//li[@class="published"]
        [? .//*[@class="date"]:<date=normalize-space(.)>]
        [? .//following-sibling::*[@class="pages"] :<pages=replace(., ".*?(\w?\d+(-\w?\d+)?)", "$1")>]
      ]
      [? .//preceding::h4[1]:<section=normalize-space(.)>]
```

Table of Contents

1 Project Profile: Smart Harvesting II

2 Maintaining Scientific Literature Databases

3 OXPath

4 Monitoring

5 Examples

6 Demonstration

Monitoring

- Monitor harvesting process, notify in case of failures

  → similar to e.g. REPOX

- Identify incomplete or incorrect data

- Retrospective monitoring of own data pool

  → schedule harvesting

Ranking of Data Streams for Scheduling

Experiment on dblp: How can we rank all our conferences such that those most urgent for the next ingestion are on top?

Datasets:

- historical dblp data
- Microsoft Academic Graph
- Conference Ratings

Features:

- expected next entry and overdue measure
- average conference rating
- conference internationality
- average citation
- average author prominence

Ranking of Data Streams for Scheduling

Example data

Table 1: Example values for conference features used in the rankings, computed for December 2016.

conf	overdue	rating	int.	disc.	citations	prom.
jcdl	15	3.5	5	3	5.9611	46.9888
tpdl	12	2.5	15	3	4.8133	52.9205
icadl	1	3	10	0	1.8881	52.2408
dl	48	0	1	38	18.4059	66.8803

Ranking of Data Streams for Scheduling

Evaluation:

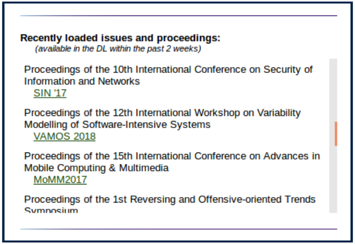
- sliding window over months of 2016
- ”gold standard” defined via interval-based pseudo-relevance
- for each month, ndcg is calculated for the produced ranking
- comparison of influence of the different features

Ranking of Data Streams for Scheduling

Comparison of ndcg values on different cut-offs. Statistical differences to the baseline tested with two-sided t-test ($*** = p < 0.001$, $** = p < 0.01$, $* = p < 0.05$).

system	ndcg-10	ndcg-20	ndcg-100	ndcg-200
delay (baseline)	0,5270	0,5300	0,4954	0,4312
+discontinued	0,7299***	0,7011***	0,6341***	0,5892***
+conf. rating	0,7613***	0,7267***	0,6380***	0,5878***
+internationality	0,6520*	0,6396*	0,5979***	0,5695***
+citations	0,5730*	0,5667	0,5468**	0,5413***
+prominence	0,6718*	0,6556**	0,5956***	0,5683***

ACM News Windows



Recently loaded issues and proceedings:
(available in the DL within the past 2 weeks)

Proceedings of the 10th International Conference on Security of Information and Networks
SIN '17

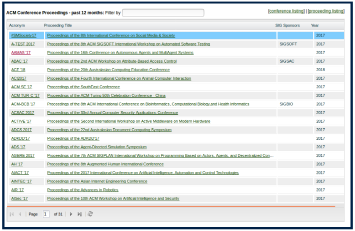
Proceedings of the 12th International Workshop on Variability Modelling of Software-Intensive Systems
VAMOS 2018

Proceedings of the 15th International Conference on Advances in Mobile Computing & Multimedia
MoMM2017

Proceedings of the 1st Reversing and Offensive-oriented Trends Symposium

- metadata delivery might be unreliable (e.g. incomplete)
- observe several news windows, unreliable as well
    - last 2 weeks

ACM News Windows



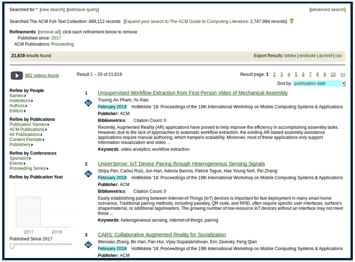
ACM Conference Proceedings - past 12 months: Filter by

[conference listing] | [proceeding listing]

Acronym	Proceeding Title	SIG Sponsors	Year
#SMSociety17	Proceedings of the 8th International Conference on Social Media & Society		2017
A-TEST 2017	Proceedings of the 8th ACM SIGSOFT International Workshop on Automated Software Testing	SIGSOFT	2017
AAMAS '17	Proceedings of the 16th Conference on Autonomous Agents and MultiAgent Systems		2017
ABAC '17	Proceedings of the 2nd ACM Workshop on Attribute-Based Access Control	SIGSAC	2017
ACE '18	Proceedings of the 20th Australasian Computing Education Conference		2018
ACI2017	Proceedings of the Fourth International Conference on Animal-Computer Interaction		2017
ACM SE '17	Proceedings of the SouthEast Conference		2017
ACM TUR-C '17	Proceedings of the ACM Turing 50th Celebration Conference - China		2017
ACM-BCB '17	Proceedings of the 8th ACM International Conference on Bioinformatics, Computational Biology,and Health Informatics	SIGBIO	2017
ACSAC 2017	Proceedings of the 33rd Annual Computer Security Applications Conference		2017
ACTIVE '17	Proceedings of the Second International Workshop on Active Middleware on Modern Hardware		2017
ADCS 2017	Proceedings of the 22nd Australasian Document Computing Symposium		2017
ADKDD'17	Proceedings of the ADKDD'17		2017
ADS '17	Proceedings of the Agent-Directed Simulation Symposium		2017
AGERE 2017	Proceedings of the 7th ACM SIGPLAN International Workshop on Programming Based on Actors, Agents, and Decentralized Con...		2017
AH '17	Proceedings of the 8th Augmented Human International Conference		2017
AIACT '17	Proceedings of the 2017 International Conference on Artificial Intelligence, Automation and Control Technologies		2017
AINTEC '17	Proceedings of the Asian Internet Engineering Conference		2017
AIR '17	Proceedings of the Advances in Robotics		2017
AISec '17	Proceedings of the 10th ACM Workshop on Artificial Intelligence and Security		2017

- metadata delivery might be unreliable (e.g. incomplete)
- observe several news windows, unreliable as well
  - last 2 weeks
  - last 12 months

ACM News Windows



Searched for *

Searched The ACM Full-Text Collection: 489,112 records [Expand your search to The ACM Guide to Computing Literature: 2,747,994 records]

Refinements click each refinement below to remove

Published since: 2017

ACM Publications: Proceeding

21,619 results found

Result 1 – 20 of 21,619

1 Unsupervised Workflow Extraction from First-Person Video of Mechanical Assembly

Truong-An Pham, Yu Xiao

February 2018 HotMobile '18: Proceedings of the 19th International Workshop on Mobile Computing Systems & Applications

Publisher: ACM

Bibliometrics: Citation Count: 0

Recently, Augmented Reality (AR) applications have proved to help improve the efficiency in accomplishing assembly tasks. However, due to the lack of approaches to automatic workflow extraction, the existing AR-based assembly assistance applications require manual authoring, which hampers scalability. Moreover, most of these applications only support information visualization and video ...

Keywords: video analytics, workflow extraction

2 *UniverSense*: IoT Device Pairing through Heterogeneous Sensing Signals

Shijia Pan, Carlos Ruiz, Jun Han, Adeola Bannis, Patrick Tague, Hae Young Noh, Pei Zhang

February 2018 HotMobile '18: Proceedings of the 19th International Workshop on Mobile Computing Systems & Applications

Publisher: ACM

Bibliometrics: Citation Count: 0

Easily establishing pairing between Internet-of-Things (IoT) devices is important for fast deployment in many smart home scenarios. Traditional pairing methods, including passkey, QR code, and RFID, often require specific user interfaces, surface's shape/material, or additional tags/readers. The growing number of low-resource IoT devices without an interface may not meet these ...

Keywords: heterogeneous sensing, internet-of-things, pairing

3 CARS: Collaborative Augmented Reality for Socialization

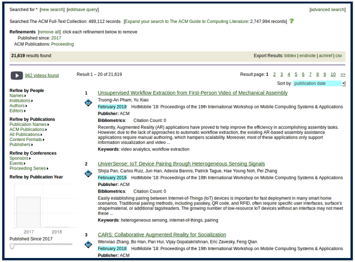
Wenxiao Zhang, Bo Han, Pan Hui, Vijay Gopalakrishnan, Eric Zavesky, Feng Qian

February 2018 HotMobile '18: Proceedings of the 19th International Workshop on Mobile Computing Systems & Applications

Publisher: ACM

- metadata delivery might be unreliable (e.g. incomplete)
- observe several news windows, unreliable as well
  - last 2 weeks
  - last 12 months
  - last 3 months

ACM News Windows



Searched for * [new search] [edit/save query] [advanced search]

Searched The ACM Full-Text Collection: 489,112 records [Expand your search to The ACM Guide to Computing Literature: 2,747,994 records]

Refinements [remove all] click each refinement below to remove
Published since: 2017
ACM Publications: Proceeding

21,619 results found Export Results: bibtex | endnote | acmref | csv

962 videos found Result 1 – 20 of 21,619 Result page: **1** 2 3 4 5 6 7 8 9 10 >>

Sort by: publication date

Refine by People
Names
Institutions
Authors
Editors

Refine by Publications
Publication Names
ACM Publications
All Publications
Content Formats
Publishers

Refine by Conferences
Sponsors
Events
Proceeding Series

Refine by Publication Year

Published Since 2017

1 Unsupervised Workflow Extraction from First-Person Video of Mechanical Assembly
Truong-An Pham, Yu Xiao
February 2018 HotMobile '18: Proceedings of the 19th International Workshop on Mobile Computing Systems & Applications
Publisher: ACM
Bibliometrics: Citation Count: 0
Recently, Augmented Reality (AR) applications have proved to help improve the efficiency in accomplishing assembly tasks. However, due to the lack of approaches to automatic workflow extraction, the existing AR-based assembly assistance applications require manual authoring, which hampers scalability. Moreover, most of these applications only support information visualization and video ...
Keywords: video analytics, workflow extraction

2 *UniverSense*: IoT Device Pairing through Heterogeneous Sensing Signals
Shijia Pan, Carlos Ruiz, Jun Han, Adeola Bannis, Patrick Tague, Hae Young Noh, Pei Zhang
February 2018 HotMobile '18: Proceedings of the 19th International Workshop on Mobile Computing Systems & Applications
Publisher: ACM
Bibliometrics: Citation Count: 0
Easily establishing pairing between Internet-of-Things (IoT) devices is important for fast deployment in many smart home scenarios. Traditional pairing methods, including passkey, QR code, and RFID, often require specific user interfaces, surface's shape/material, or additional tags/readers. The growing number of low-resource IoT devices without an interface may not meet these ...
Keywords: heterogeneous sensing, internet-of-things, pairing

3 CARS: Collaborative Augmented Reality for Socialization
Wenxiao Zhang, Bo Han, Pan Hui, Vijay Gopalakrishnan, Eric Zavesky, Feng Qian
February 2018 HotMobile '18: Proceedings of the 19th International Workshop on Mobile Computing Systems & Applications
Publisher: ACM

OXPath Expression

```
doc('http://dl.acm.org/advsearch.cfm')
  //*[@id='fld0']/optgroup[1]/option[5]/{click /}
  //*[@id='how0']/option[4]/{click /}
  //*[@id='dte0']/option[@value='${start.year}']/{click /}
  //*[@id='submit']/input/{click /}
    //*[@id='ACM_Publications_list']//a[contains(.,
        'Proceeding')]/{click /}
    //*[@id='sortmenu']//option[@value='publicationDate']
       /{click /}
     /(/.[not(.//*[@class='publicationDate' and
         contains(., '${poison.pill}')])]
         //*[@class="pagelogic"][1]/span[./strong]
            /following-sibling::span[./a][1]
               /{click[wait=5] /})*
       //*[@id='results']/div[contains(@class,
           'details')]:<record>
       [? .//div[@class='source']/span[2]
         :<header=normalize-space(.)>
         :<title=substring-after(normalize-space(.), ':
             ')>
         :<conference=substring-before(normalize-space(.),
             ': ')>
       ]
       [? .//div[@class='title']//a
         :<section=normalize-space(.)>
         :<details=qualify-url(@href)>
       ]
```

Table of Contents

1 Project Profile: Smart Harvesting II

2 Maintaining Scientific Literature Databases

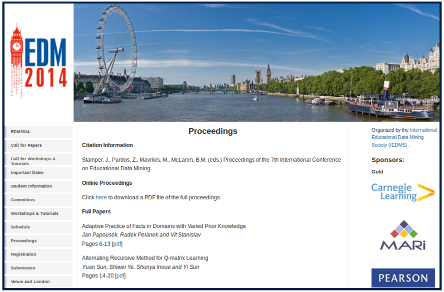
3 OXPath

4 Monitoring

5 Examples

6 Demonstration

EDM 2014: Simple Extraction



Proceedings

Citation Information

Stamper, J., Pardos, Z., Mavrikis, M., McLaren, B.M. (eds.) Proceedings of the 7th International Conference on Educational Data Mining.

Online Proceedings

Click here to download a PDF file of the full proceedings.

Full Papers

Adaptive Practice of Facts in Domains with Varied Prior Knowledge
Jan Papousek, Radek Pelánek and Vit Stanislav
Pages 6-13 [pdf]

Alternating Recursive Method for Q-matrix Learning
Yuan Sun, Shiwei Ye, Shunya Inoue and Yi Sun
Pages 14-20 [pdf]

Organized by the International Educational Data Mining Society (IEDMS).

Sponsors:

Gold

OXPath Expression

```
doc('http://edm2014.org/?page=proceedings')
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
</results>
```

EDM 2014: Simple Extraction

HTML Source

```
<html xmlns="[...]" xml:lang="en">
 <!--[...]-->
 <div id="content">
  <!--[...]-->
  <strong>Online Proceedings</strong>
  <!--[...]-->
  <strong>Full Papers</strong>
  <!--[...]-->
  <p>Adaptive Practice of [...]
    <br/>
    <em> Jan Papousek, [...]</em>
    <br/>
    Pages 6-13 [
    <a href="uploads/[...].pdf">pdf</a>
    ]
    <!--[...]-->
  </p>
  <!--[...]-->
 </div>
 <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2014.org/?page=proceedings')
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
</results>
```

EDM 2014: Simple Extraction

HTML Source

```
<html xmlns="[...]" xml:lang="en">
 <!--[...]-->
 <div id="content">
  <!--[...]-->
  <strong>Online Proceedings</strong>
  <!--[...]-->
  <strong>Full Papers</strong>
  <!--[...]-->
  <p>Adaptive Practice of [...]
   <br/>
   <em> Jan Papousek, [...]</em>
   <br/>
   Pages 6-13 [
   <a href="uploads/[...].pdf">pdf</a>
   ]
   <!--[...]-->
  </p>
  <!--[...]-->
 </div>
 <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2014.org/?page=proceedings')
 //*[@id='content']/p[./em]:<record>
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
 <record></record>
 <record></record>
 <!--[...]-->
</results>
```

EDM 2014: Simple Extraction

HTML Source

```
<html xmlns="[...]" xml:lang="en">
 <!--[...]-->
 <div id="content">
  <!--[...]-->
  <strong>Online Proceedings</strong>
  <!--[...]-->
  <strong>Full Papers</strong>
  <!--[...]-->
  <p>Adaptive Practice of [...]
   <br/>
   <em> Jan Papousek, [...]</em>
   <br/>
   Pages 6-13 [
   <a href="uploads/[...].pdf">pdf</a>
   ]
   <!--[...]-->
  </p>
  <!--[...]-->
 </div>
 <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2014.org/?page=proceedings')
 //*[@id='content']/p[./em]:<record>
   [./em:<authors=string(.)>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
 <!--[...]-->
 <record>
  <authors> Jan Papousek, [...]</authors>
 </record>
 <!--[...]-->
</results>
```

EDM 2014: Simple Extraction

HTML Source

```
<html xmlns="[...]" xml:lang="en">
 <!--[...]-->
 <div id="content">
  <!--[...]-->
  <strong>Online Proceedings</strong>
  <!--[...]-->
  <strong>Full Papers</strong>
  <!--[...]-->
  <p>Adaptive Practice of [...]
    <br/>
    <em> Jan Papousek, [...]</em>
    <br/>
    Pages 6-13 [
    <a href="uploads/[...].pdf">pdf</a>
    ]
    <!--[...]-->
  </p>
  <!--[...]-->
 </div>
 <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2014.org/?page=proceedings')
 //*[@id='content']/p[./em]:<record>
   [./em:<authors=string(.)>]
   [./text()[1]:<title=string(.)>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
 <!--[...]-->
 <record>
   <authors> Jan Papousek, [...]</authors>
   <title>Adaptive Practice of [...]</title>
 </record>
 <!--[...]-->
</results>
```

EDM 2014: Simple Extraction

HTML Source

```
<html xmlns="[...]" xml:lang="en">
  <!--[...]-->
  <div id="content">
    <!--[...]-->
    <strong>Online Proceedings</strong>
    <!--[...]-->
    <strong>Full Papers</strong>
    <!--[...]-->
    <p>Adaptive Practice of [...]
     <br/>
     <em> Jan Papousek, [...]</em>
     <br/>
     Pages 6-13 [
     <a href="uploads/[...].pdf">pdf</a>
     ]
     <!--[...]-->
    </p>
    <!--[...]-->
  </div>
  <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2014.org/?page=proceedings')
  //*[@id='content']/p[./em]:<record>
    [./em:<authors=string(.)>]
    [./text()[1]:<title=string(.)>]
    [./br[2]/following-sibling::text()[1]
        :<pages=substring-after(., "Pages ")>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <!--[...]-->
  <record>
    <authors> Jan Papousek, [...]</authors>
    <title>Adaptive Practice of [...]</title>
    <pages>6-13 [</pages>
  </record>
  <!--[...]-->
</results>
```

EDM 2014: Simple Extraction

HTML Source

```
<html xmlns="[...]" xml:lang="en">
  <!--[...]-->
  <div id="content">
    <!--[...]-->
    <strong>Online Proceedings</strong>
    <!--[...]-->
    <strong>Full Papers</strong>
    <!--[...]-->
    <p>Adaptive Practice of [...]
      <br/>
      <em> Jan Papousek, [...]</em>
      <br/>
      Pages 6-13 [
      <a href="uploads/[...].pdf">pdf</a>
      ]
      <!--[...]-->
    </p>
    <!--[...]-->
  </div>
  <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2014.org/?page=proceedings')
  //*[@id='content']/p[./em]:<record>
    [./em:<authors=string(.)>]
    [./text()[1]:<title=string(.)>]
    [./br[2]/following-sibling::text()[1]
        :<pages=substring-after(., "Pages ")>]
    [./a:<url=string(@href)>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <!--[...]-->
  <record>
    <authors> Jan Papousek, [...]</authors>
    <title>Adaptive Practice of [...]</title>
    <pages>6-13 [</pages>
    <url>uploads/[...].pdf</url>
  </record>
  <!--[...]-->
</results>
```

EDM 2014: Simple Extraction

HTML Source

```
<html xmlns="[...]" xml:lang="en">
 <!--[...]-->
 <div id="content">
   <!--[...]-->
   <strong>Online Proceedings</strong>
   <!--[...]-->
   <strong>Full Papers</strong>
   <!--[...]-->
   <p>Adaptive Practice of [...]
     <br/>
     <em> Jan Papousek, [...]</em>
     <br/>
     Pages 6-13 [
     <a href="uploads/[...].pdf">pdf</a>
     ]
     <!--[...]-->
   </p>
   <!--[...]-->
 </div>
 <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2014.org/?page=proceedings')
  //*[@id='content']/p[./em]:<record>
    [./em:<authors=string(.)>]
    [./text()[1]:<title=string(.)>]
    [./br[2]/following-sibling::text()[1]
        :<pages=substring-after(., "Pages ")>]
    [./a:<url=string(@href)>]
    [./preceding::strong[1]:<header=string(.)>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <!--[...]-->
  <record>
    <authors> Jan Papousek, [...]</authors>
    <title>Adaptive Practice of [...]</title>
    <pages>6-13 [</pages>
    <url>uploads/[...].pdf</url>
    <header>Full Papers</header>
  </record>
  <!--[...]-->
</results>
```

EDM 2014: Advanced Extraction

HTML Source

```
<html xmlns="[...]" xml:lang="en">
  <!--[...]-->
  <div id="content">
    <!--[...]-->
    <strong>Online Proceedings</strong>
    <!--[...]-->
    <strong>Full Papers</strong>
    <!--[...]-->
    <p>Adaptive Practice of [...]
      <br/>
      <em> Jan Papousek, [...]</em>
      <br/>
      Pages 6-13 [
      <a href="uploads/[...].pdf">pdf</a>
      ]
      <!--[...]-->
    </p>
    <!--[...]-->
  </div>
  <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2014.org/?page=proceedings')
  //*[@id='content']/p[./em]:<record>
    [./em:<authors=string(.)>]
    [./text()[1]:<title=string(.)>]
    [./br[2]/following-sibling::text()[1]
        :<pages=substring-after(., "Pages ")>]
    [./a:<url=string(@href)>]
    [./preceding::strong[1]:<header=string(.)>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <!--[...]-->
  <record>
    <authors> Jan Papousek, [...]</authors>
    <title>Adaptive Practice of [...]</title>
    <pages>6-13 [</pages>
    <url>uploads/[...].pdf</url>
    <header>Full Papers</header>
  </record>
  <!--[...]-->
</results>
```

EDM 2014: Advanced Extraction

HTML Source

```
<html xmlns="[...]" xml:lang="en">
 <!--[...]-->
 <div id="content">
   <!--[...]-->
   <strong>Online Proceedings</strong>
   <!--[...]-->
   <strong>Full Papers</strong>
   <!--[...]-->
   <p>Adaptive Practice of [...]
     <br/>
     <em> Jan Papousek, [...]</em>
     <br/>
     Pages 6-13 [
     <a href="uploads/[...].pdf">pdf</a>
     ]
     <!--[...]-->
   </p>
   <!--[...]-->
 </div>
 <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2014.org/?page=proceedings')
 //*[@id='content']/p[./em]:<record>
   [./em:<authors=normalize-space(.)>]
   [./text()[1]:<title=string(.)>]
   [./br[2]/following-sibling::text()[1]
        :<pages=substring-after(., "Pages ")>]
   [./a:<url=string(@href)>]
   [./preceding::strong[1]:<header=string(.)>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
 <!--[...]-->
 <record>
   <authors>Jan Papousek, [...]</authors>
   <title>Adaptive Practice of [...]</title>
   <pages>6-13 [</pages>
   <url>uploads/[...].pdf</url>
   <header>Full Papers</header>
 </record>
 <!--[...]-->
</results>
```

EDM 2014: Advanced Extraction

HTML Source

```
<html xmlns="[...]" xml:lang="en">
 <!--[...]-->
 <div id="content">
  <!--[...]-->
  <strong>Online Proceedings</strong>
  <!--[...]-->
  <strong>Full Papers</strong>
  <!--[...]-->
  <p>Adaptive Practice of [...]
   <br/>
   <em> Jan Papousek, [...]</em>
   <br/>
   Pages 6-13 [
   <a href="uploads/[...].pdf">pdf</a>
   ]
   <!--[...]-->
  </p>
  <!--[...]-->
 </div>
 <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2014.org/?page=proceedings')
 //*[@id='content']/p[./em]:<record>
  [./em:<authors=normalize-space(.)>]
  [./text()[1]:<title=string(.)>]
  [./br[2]/following-sibling::text()[1]
      :<pages=replace(normalize-space(.),
      ".*?(\d+(-\d+)?).*", "$1")>]
  [./a:<url=string(@href)>]
  [./preceding::strong[1]:<header=string(.)>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
 <!--[...]-->
 <record>
  <authors>Jan Papousek, [...]</authors>
  <title>Adaptive Practice of [...]</title>
  <pages>6-13</pages>
  <url>uploads/[...].pdf</url>
  <header>Full Papers</header>
 </record>
 <!--[...]-->
</results>
```

EDM 2014: Advanced Extraction

HTML Source

```
<html xmlns="[...]" xml:lang="en">
 <!--[...]-->
 <div id="content">
  <!--[...]-->
  <strong>Online Proceedings</strong>
  <!--[...]-->
  <strong>Full Papers</strong>
  <!--[...]-->
  <p>Adaptive Practice of [...]
   <br/>
   <em> Jan Papousek, [...]</em>
   <br/>
   Pages 6-13 [
   <a href="uploads/[...].pdf">pdf</a>
   ]
   <!--[...]-->
  </p>
  <!--[...]-->
 </div>
 <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2014.org/?page=proceedings')
 //*[@id='content']/p[./em]:<record>
  [./em:<authors=normalize-space(.)>]
  [./text()[1]:<title=string(.)>]
  [./br[2]/following-sibling::text()[1]
      :<pages=replace(normalize-space(.),
      ".*?(\d+(-\d+)?).*", "$1")>]
  [./a:<url=qualify-url(@href)>]
  [./preceding::strong[1]:<header=string(.)>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
 <!--[...]-->
 <record>
  <authors>Jan Papousek, [...]</authors>
  <title>Adaptive Practice of [...]</title>
  <pages>6-13</pages>
  <url>http://[...]uploads/[...].pdf</url>
  <header>Full Papers</header>
 </record>
 <!--[...]-->
</results>
```

EDM 2016: Adapting from EDM 2014

HTML Source (EDM 2014)

```
<html xmlns="[...]" xml:lang="en">
 <!--[...]-->
 <div id="content">
  <!--[...]-->
  <strong>Online Proceedings</strong>
  <!--[...]-->
  <strong>Full Papers</strong>
  <!--[...]-->
  <p>Adaptive Practice of [...]
   <br/>
   <em> Jan Papousek, [...]</em>
   <br/>
   Pages 6-13 [
   <a href="uploads/[...].pdf">pdf</a>
   ]
   <!--[...]-->
  </p>
  <!--[...]-->
 </div>
 <!--[...]-->
</html>
```

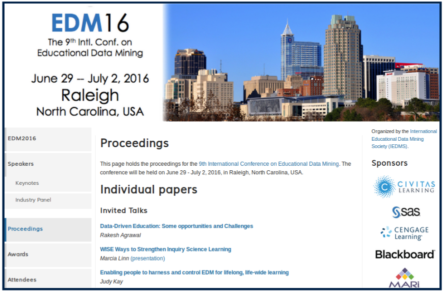
OXPath Expression (EDM 2014)

```
doc('http://edm2014.org/?page=proceedings')
 //*[@id='content']/p[./em]:<record>
  [./em:<authors=string(.)>]
  [./text()[1]:<title=string(.)>]
  [./br[2]/following-sibling::text()[1]
    :<pages=substring-after(., "Pages ")>]
  [./a:<url=string(@href)>]
  [./preceding::strong[1]:<header=string(.)>]
```

XML Output (EDM 2014)

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
 <!--[...]-->
 <record>
  <authors> Jan Papousek, [...]</authors>
  <title>Adaptive Practice of [...]</title>
  <pages>6-13 [</pages>
  <url>uploads/[...].pdf</url>
  <header>Full Papers</header>
 </record>
 <!--[...]-->
</results>
```

EDM 2016: Adapting from EDM 2014



Proceedings

This page holds the proceedings for the 9th International Conference on Educational Data Mining. The conference will be held on June 29 - July 2, 2016, in Raleigh, North Carolina, USA.

Individual papers

Invited Talks

Data-Driven Education: Some opportunities and Challenges
Rakesh Agrawal

WISE Ways to Strengthen Inquiry Science Learning
Marcia Linn (presentation)

Enabling people to harness and control EDM for lifelong, life-wide learning
Judy Kay

Organized by the International Educational Data Mining Society (IEDMS).

Sponsors

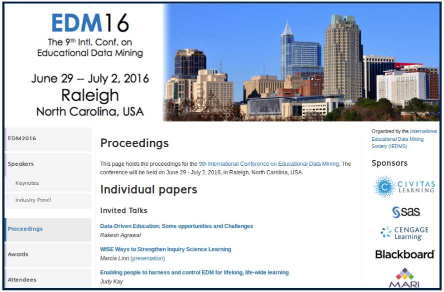
OXPath Expression

```
doc('http://edm2016.org/proceedings.html')
 //*[@id='content']/p[./em]:<record>
   [./em:<authors=string(.)>]
   [./text()[1]:<title=string(.)>]
   [./br[2]/following-sibling::text()[1]
       :<pages=substring-after(., "Pages ")>]
   [./a:<url=string(@href)>]
   [./preceding::strong[1]:<header=string(.)>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
</results>
```

EDM 2016: Adapting from EDM 2014



EDM16
The 9th Intl. Conf. on
Educational Data Mining

June 29 -- July 2, 2016
Raleigh
North Carolina, USA

EDM2016
Speakers
Keynotes
Industry Panel
Proceedings
Awards
Attendees

Proceedings

This page holds the proceedings for the 9th International Conference on Educational Data Mining. The conference will be held on June 29 - July 2, 2016, in Raleigh, North Carolina, USA.

Individual papers

Invited Talks

Data-Driven Education: Some opportunities and Challenges
Rakesh Agrawal

WISE Ways to Strengthen Inquiry Science Learning
Marcia Linn (presentation)

Enabling people to harness and control EDM for lifelong, life-wide learning
Judy Kay

Organized by the International Educational Data Mining Society (IEDMS).

Sponsors

CIVITAS LEARNING
sas
CENGAGE Learning
Blackboard
MARi

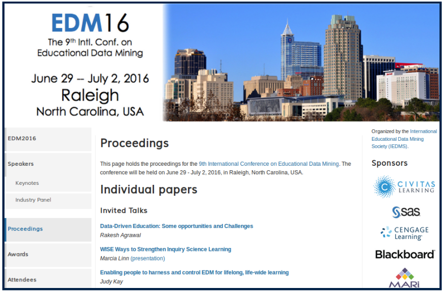
OXPath Expression

```
doc('http://edm2016.org/proceedings.html')
 //*[@id='content']/p[./em]:<record>
   [./em:<authors=string(.)>]
   [./text()[1]:<title=string(.)>]
   [./br[2]/following-sibling::text()[1]
         :<pages=substring-after(., "Pages ")>]
   [./a:<url=string(@href)>]
   [./preceding::strong[1]:<header=string(.)>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <!--[...]-->
  <record>
    <authors>???</authors>
    <title>???</title>
    <pages>???</pages>
    <url>???</url>
    <header>???</header>
  </record>
  <!--[...]-->
</results>
```

EDM 2016: Adapting from EDM 2014



EDM16
The 9th Intl. Conf. on
Educational Data Mining

June 29 -- July 2, 2016
Raleigh
North Carolina, USA

- EDM2016
- Speakers
  - Keynotes
  - Industry Panel
- Proceedings
- Awards
- Attendees

Proceedings

This page holds the proceedings for the 9th International Conference on Educational Data Mining. The conference will be held on June 29 - July 2, 2016, in Raleigh, North Carolina, USA.

Individual papers

Invited Talks

Data-Driven Education: Some opportunities and Challenges
Rakesh Agrawal

WISE Ways to Strengthen Inquiry Science Learning
Marcia Linn (presentation)

Enabling people to harness and control EDM for lifelong, life-wide learning
Judy Kay

Organized by the International Educational Data Mining Society (IEDMS).

Sponsors

OXPath Expression

```
doc('http://edm2016.org/proceedings.html')
 ???:<record>
   [???:<authors=???>]
   [???:<title=???>]
   [???:<pages=???>]
   [???:<url=???>]
   [???:<header=???>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
 <!--[...]-->
 <record>
   <authors>???</authors>
   <title>???</title>
   <pages>???</pages>
   <url>???</url>
   <header>???</header>
 </record>
 <!--[...]-->
</results>
```

EDM 2016: Adapting from EDM 2014

HTML Source

```
<html>
  <!--[...]-->
  <h1>Individual papers</h1>
  <h3>Invited Talks</h3>
  <p>
    <a id="[...]" class="citation_title"
        href="[...]">Data-Driven [...]</a>
    <!--[...]-->
    <span class="[...]title">9th [...]</span>
    <span class="[...]firstpage">2</span>
    <span class="[...]lastpage">2</span>
    <span class="[...]pdf_url">http[...]</span>
    <br/>
    <span class="[...]author">Ra[...]</span>
    <!--[...]-->
  </p>
  <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2016.org/proceedings.html')
  ???:<record>
    [???:<authors=???>]
    [???:<title=???>]
    [???:<pages=???>]
    [???:<url=???>]
    [???:<header=???>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <!--[...]-->
  <record>
    <authors>???</authors>
    <title>???</title>
    <pages>???</pages>
    <url>???</url>
    <header>???</header>
  </record>
  <!--[...]-->
</results>
```

EDM 2016: Adapting from EDM 2014

HTML Source

```
<html>
  <!--[...]-->
  <h1>Individual papers</h1>
  <h3>Invited Talks</h3>
  <p>
    <a id="[...]" class="citation_title"
        href="[...]">Data-Driven [...]</a>
    <!--[...]-->
    <span class="[...]title">9th [...]</span>
    <span class="[...]firstpage">2</span>
    <span class="[...]lastpage">2</span>
    <span class="[...]pdf_url">http[...]</span>
    <br/>
    <span class="[...]author">Ra[...]</span>
    <!--[...]-->
  </p>
  <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2016.org/proceedings.html')
  //p[./*[contains(@class, 'cit')]]:<record>
    [???:<authors=???>]
    [???:<title=???>]
    [???:<pages=???>]
    [???:<url=???>]
    [???:<header=???>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <!--[...]-->
  <record>
    <authors>???</authors>
    <title>???</title>
    <pages>???</pages>
    <url>???</url>
    <header>???</header>
  </record>
  <!--[...]-->
</results>
```

EDM 2016: Adapting from EDM 2014

HTML Source

```
<html>
  <!--[...]-->
  <h1>Individual papers</h1>
  <h3>Invited Talks</h3>
  <p>
    <a id="[...]" class="citation_title"
        href="[...]">Data-Driven [...]</a>
    <!--[...]-->
    <span class="[...]title">9th [...]</span>
    <span class="[...]firstpage">2</span>
    <span class="[...]lastpage">2</span>
    <span class="[...]pdf_url">http[...]</span>
    <br/>
    <span class="[...]author">Ra[...]</span>
    <!--[...]-->
  </p>
  <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2016.org/proceedings.html')
  //p[./*[@class~='cit']]:<record>
    [./*[@class~='author']:<authors=string(.)>]
    [???:<title=???>]
    [???:<pages=???>]
    [???:<url=???>]
    [???:<header=???>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <!--[...]-->
  <record>
    <authors>Rakesh Agrawal</authors>
    <title>???</title>
    <pages>???</pages>
    <url>???</url>
    <header>???</header>
  </record>
  <!--[...]-->
</results>
```

EDM 2016: Adapting from EDM 2014

HTML Source

```
<html>
  <!--[...]-->
  <h1>Individual papers</h1>
  <h3>Invited Talks</h3>
  <p>
    <a id="[...]" class="citation_title"
        href="[...]">Data-Driven [...]</a>
    <!--[...]-->
    <span class="[...]title">9th [...]</span>
    <span class="[...]firstpage">2</span>
    <span class="[...]lastpage">2</span>
    <span class="[...]pdf_url">http[...]</span>
    <br/>
    <span class="[...]author">Ra[...]</span>
    <!--[...]-->
  </p>
  <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2016.org/proceedings.html')
  //p[./*[@class~='cit']]:<record>
    [./*[@class~='author']:<authors=string(.)>]
    [./*[@class~='title']:<title=string(.)>]
    [???:<pages=???>]
    [???:<url=???>]
    [???:<header=???>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <!--[...]-->
  <record>
    <authors>Rakesh Agrawal</authors>
    <title>Data-Driven [...]</title>
    <pages>???</pages>
    <url>???</url>
    <header>???</header>
  </record>
  <!--[...]-->
</results>
```

EDM 2016: Adapting from EDM 2014

HTML Source

```html
<html>
 <!--[...]-->
 <h1>Individual papers</h1>
 <h3>Invited Talks</h3>
 <p>
   <a id="[...]" class="citation_title"
       href="[...]">Data-Driven [...]</a>
   <!--[...]-->
   <span class="[...]title">9th [...]</span>
   <span class="[...]firstpage">2</span>
   <span class="[...]lastpage">2</span>
   <span class="[...]pdf_url">http[...]</span>
   <br/>
   <span class="[...]author">Ra[...]</span>
   <!--[...]-->
 </p>
 <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2016.org/proceedings.html')
  //p[./*[@class~='cit']]:<record>
    [./*[@class~='author']:<authors=string(.)>]
    [./*[@class~='title']:<title=string(.)>]
    [.:<pages=concat(./*[@class~='firstpage'],
        '-', ./*[@class~='lastpage'])>]
    [???:<url=???>]
    [???:<header=???>]
```

XML Output

```xml
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <!--[...]-->
  <record>
    <authors>Rakesh Agrawal</authors>
    <title>Data-Driven [...]</title>
    <pages>2-2</pages>
    <url>???</url>
    <header>???</header>
  </record>
  <!--[...]-->
</results>
```

EDM 2016: Adapting from EDM 2014

HTML Source

```
<html>
  <!--[...]-->
  <h1>Individual papers</h1>
  <h3>Invited Talks</h3>
  <p>
    <a id="[...]" class="citation_title"
        href="[...]">Data-Driven [...]</a>
    <!--[...]-->
    <span class="[...]title">9th [...]</span>
    <span class="[...]firstpage">2</span>
    <span class="[...]lastpage">2</span>
    <span class="[...]pdf_url">http[...]</span>
    <br/>
    <span class="[...]author">Ra[...]</span>
    <!--[...]-->
  </p>
  <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2016.org/proceedings.html')
  //p[./*[@class~='cit']]:<record>
    [./*[@class~='author']:<authors=string(.)>]
    [./*[@class~='title']:<title=string(.)>]
    [.:<pages=concat(./*[@class~='firstpage'],
        '-', ./*[@class~='lastpage'])>]
    [./*[@class~='url']:<url=string(.)>]
    [???:<header=???>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <!--[...]-->
  <record>
    <authors>Rakesh Agrawal</authors>
    <title>Data-Driven [...]</title>
    <pages>2-2</pages>
    <url>http://[...].pdf</ee>
    <header>???</header>
  </record>
  <!--[...]-->
</results>
```

EDM 2016: Adapting from EDM 2014

HTML Source

```
<html>
  <!--[...]-->
  <h1>Individual papers</h1>
  <h3>Invited Talks</h3>
  <p>
    <a id="[...]" class="citation_title"
        href="[...]">Data-Driven [...]</a>
    <!--[...]-->
    <span class="[...]title">9th [...]</span>
    <span class="[...]firstpage">2</span>
    <span class="[...]lastpage">2</span>
    <span class="[...]pdf_url">http[...]</span>
    <br/>
    <span class="[...]author">Ra[...]</span>
    <!--[...]-->
  </p>
  <!--[...]-->
</html>
```

OXPath Expression

```
doc('http://edm2016.org/proceedings.html')
  //p[./*[@class~='cit']]:<record>
    [./*[@class~='author']:<authors=string(.)>]
    [./*[@class~='title']:<title=string(.)>]
    [.:<pages=concat(./*[@class~='firstpage'],
        '-', ./*[@class~='lastpage'])>]
    [./*[@class~='url']:<url=string(.)>]
    [./preceding::h3[1]:<header=string(.)>]
```

XML Output

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <!--[...]-->
  <record>
    <authors>Rakesh Agrawal</authors>
    <title>Data-Driven [...]</title>
    <pages>2-2</pages>
    <url>http://[...].pdf</ee>
    <header>Invited Talks</header>
  </record>
  <!--[...]-->
</results>
```

Table of Contents

1 Project Profile: Smart Harvesting II

2 Maintaining Scientific Literature Databases

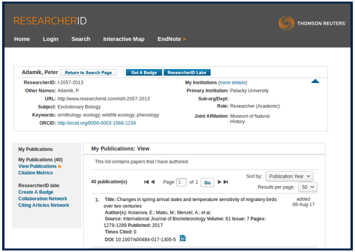
3 OXPath

4 Monitoring

5 Examples

6 Demonstration

Demonstration: Researcher ID



Adamik, Peter

ResearcherID: I-2057-2013
Other Names: Adamik, P.
URL: http://www.researcherid.com/rid/I-2057-2013
Subject: Evolutionary Biology
Keywords: ornithology; ecology; wildlife ecology; phenology
ORCID: http://orcid.org/0000-0003-1566-1234

My Institutions (more details)
Primary Institution: Palacký University
Sub-org/Dept:
Role: Researcher (Academic)
Joint Affiliation: Museum of Natural History

My Publications (40)

My Publications: View

This list contains papers that I have authored.

40 publication(s) Page 1 of 1

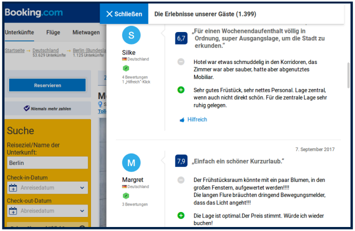
Sort by: Publication Year
Results per page: 50

1. Title: Changes in spring arrival dates and temperature sensitivity of migratory birds over two centuries
Author(s): Kolarova, E.; Matiu, M.; Menzel, A.; et al.
Source: International Journal of Biometeorology Volume: 61 Issue: 7 Pages: 1279-1289 Published: 2017
Times Cited: 0
DOI: 10.1007/s00484-017-1305-5
added 08-Aug-17

OXPath Expression

```
doc("http://www.researcherid.com/rid/I-2057-2013")
 //*[@id='resultContainer']/table[1]
     //*[@id='resultsPerPage']/option[3]/{click /}
 //*[@class='profileName']:<name=normalize-space(.)>
 /(//following::*[@id='resultContainer']/table[1]//img
     [@alt="Next Page"]
     [@onclick="showNextPage()"]/{click /})*
 //following::*[@id='resultContainer']:<publications>
   [./table[2]/tbody/tr/td[2]:<publication>
     [.:<title=substring-before(
         substring-after(normalize-space(.), "Title: "),
         " Author(s):")>]
     [.:<auSoPaPu=concat("Author(s): ",
         substring-before(
         substring-after(normalize-space(.), "Author(s):
         "), " DOI:"))>]
     [.:<doi=substring-after(normalize-space(.), "DOI:
         ")>]
   ]
```

Demonstration: Booking



Die Erlebnisse unserer Gäste (1.399)

Silke
Deutschland
4 Bewertungen
1 „Hilfreich"-Klick

6,7 „Für einen Wochenendaufenthalt völlig in Ordnung, super Ausgangslage, um die Stadt zu erkunden."

Hotel war etwas schmuddelig in den Korridoren, das Zimmer war aber sauber, hatte aber abgenutztes Mobiliar.

Sehr gutes Früstück, sehr nettes Personal. Lage zentral, wenn auch nicht direkt schön. Für die zentrale Lage sehr ruhig gelegen.

Hilfreich

7. September 2017

Margret
Deutschland
3 Bewertungen

7,9 „Einfach ein schöner Kurzurlaub."

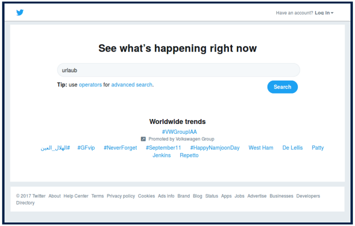
Der Frühstücksraum könnte mit ein paar Blumen, in den großen Fenstern, aufgewertet werden!!!!
Die langen Flure bräuchten dringend Bewegungsmelder, dass das Licht angeht!!!

Die Lage ist optimal.Der Preis stimmt. Würde ich wieder buchen!

OXPath Expression

```
doc("https://www.booking.com/hotel/de/metropolitan...")
  //a[@id='show_reviews_tab']/{click /}
  /(//*[@id='review_next_page_link']/{clkwithchange
       /})*{0,2}
  //div[contains(@class, 'review_list_block')]
    //li[contains(@class, 'review_item')]
         [not(contains(@class, 'featured_review_item'))]
         [not(@class= 'review_item_photo
        review_item_photo-p')]:<review>
  [? .//*[contains(@class, 'review_item_date')]
    :<date=normalize-space(.)>]
  [? .//*[contains(@class, 'review_item_review_score')]
    :<score=normalize-space(.)>]
  [? .//*[@class='review_item_header_content_container']
    :<title=normalize-space(.)>]
  [? .//*[contains(@class, 'review_item_review_content')]
    :<text=string-join(./p/text(), " ")>]
  [? .//*[@class='reviewer_country']
    :<country=normalize-space(.)>]
```

Demonstration: Twitter



Have an account? **Log In**

See what's happening right now

urlaub

Tip: use operators for advanced search.

Worldwide trends

#VWGroupIAA

Promoted by Volkswagen Group

#الهلال_العين #GFvip #NeverForget #September11 #HappyNamjoonDay West Ham De Lellis Patty Jenkins Repetto

© 2017 Twitter About Help Center Terms Privacy policy Cookies Ads info Brand Blog Status Apps Jobs Advertise Businesses Developers Directory

OXPath Expression

```
doc("https://twitter.com/search-home")
 //input[@id='search-home-input']/{'urlaub'}/{pressenter/}
 /(//div[contains(@class,'stream-footer')]
   /{mouseover /})*{0, 4}
 /.:<count=count(//li[@data-item-type='tweet'])>
 //li[@data-item-type='tweet']:<tweet>
   [? .//strong[@class='fullname show-popup-with-id ']
       :<user_name=string(.)>]
   [? .//a[starts-with(@class,
       'account-group')]/span[@class='username u-dir']
       :<user_id=string(.)>]
   [? .//a[@class="tweet-timestamp js-permalink js-nav
       js-tooltip"]/@title:<date=string(.)>]
   [? .//p[starts-with(@class,'TweetTextSize')]
       :<content=normalize-space(.)>]
   [? .//button[contains(@aria-describedby,
       'reply-count')]/span/span:<antworten=string(.)>]
   [? .//button[contains(@aria-describedby,
       'retweet-count')]/span/span:<retweets=string(.)>]
   [? .//button[contains(@aria-describedby,
       'favorite-count')]/span/span:<likes=string(.)>]
```

Discussion

Thank you for your attention!
Feel free to ask any questions now!

Contact us:
`mandy.neumann@th-koeln.de`
`michelsc@uni-trier.de`

Source:
Visit `http://www.oxpath.org`

Table of contents

1. Project Profile: Smart Harvesting II
2. Maintaining Scientific Literature Databases
3. OXPath
4. Monitoring
5. Examples
6. Demonstration