Metodologi Penelitian

3. Literature Review

Husni

husni@trunojoyo.ac.id
http://husni.trunojoyo.ac.id

Course Outline

1. Pengantar Penelitian
2. Tahapan Penelitian
3. **Literature Review**
4. Penulisan Ilmiah dan Publikasi Penelitian
5. Systematic Literature Review (SLR)
6. Pembimbingan dan Presentasi Penelitian

3. Literature Review

3.1 Literatur Ilmiah

3.2 Teknik Mengelola Paper

3.3 Teknik Mereview Paper

3.1 Literatur Ilmiah

Manfaat Mereview Literatur

- Memperdalam pengetahuan tentang bidang yang diteliti
- Mengetahui hasil penelitian yang berhubungan dan yang sudah pernah dilaksanakan (*Related Research*)
- Mengetahui perkembangan ilmu pada bidang yang dipilih (*state-of-the-art*)
- Memperjelas masalah penelitian

Jenis Literatur Ilmiah

1. **Paper dari Journal**
2. Paper dari Book Chapter
3. Paper dari Conference (*Proceedings*)
4. Thesis dan Disertasi
5. Report (Laporan) dari Organisasi yang Terpercaya
6. Buku Textbook

** Prioritaskan mengambil paper journal yang terindeks oleh ISI dan SCOPUS, cek dengan http://scimagojr.com*

www.scimagojr.com/journalsearch.php

SJR SCImago Journal & Country Rank

EST MODUS IN REBUS
Horatio (Satire 1,1,106)

- Home
- Journal Rankings
- Journal Search
- Country Rankings
- Country Search
- Compare
- Map Generator
- Help
- About Us

Journal Search

Search query

Journal of Systems and Software in Journal Title Search

Exact phrase

Please, select journal:

1. Journal of Systems and Software. United States.

Related product

SJR SCImago Journal & Country Rank

EST MODUS IN REBUS
Horatio (Satire 1,1,106)

Home
Journal Rankings
Journal Search
Country Rankings
Country Search
Compare
Map Generator
Help
About Us

Journal Search

Search query

in Journal Title Search

Exact phrase

Journal of Systems and Software

Country: United States

Subject Area: Computer Science

Subject Category:

Category	Quartile (Q1 means highest values and Q4 lowest values)														
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Hardware and Architecture	Q2	Q2	Q1	Q2	Q2	Q2	Q1	Q2	Q2	Q2	Q1	Q2	Q1	Q1	Q1
Information Systems	Q3	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2
Software	Q3	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2	Q2

Publisher: Elsevier Inc.. **Publication type:** Journals. **ISSN:** 01641212

Coverage: 1979-2014

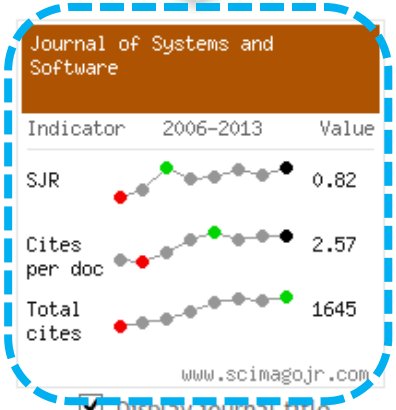
H Index: 60

Scope:

The Journal of Systems and Software publishes papers covering all aspects of programming methodology, software engineering, and related hardware-software-systems issues. [...]

Show full scope

Show this information in your own website



Display journal title

Journal of Systems and Software

The Journal of Systems and Software publishes papers covering all aspects of programming methodology, software engineering, and related hardware-software-systems issues. Topics of interest include, but...

View full aims and scope

Editor-in-Chief, Software Architecture Papers: H. van Vliet

View full editorial board

Guide for Authors

Submit Your Paper

Track Your Paper

Order Journal

Access Full Text

Impact Factor: 1.277

5-Year Impact Factor: 1.282

Imprint: ELSEVIER

ISSN: 0164-1212

News

Publish multimedia data in your articles

SciVerse App: Expert Search

VIEW ALL

Guidelines

Charting a Course for a Successful Research Career

Ways to Use Journal Articles Published by Elsevier: A Practical Guide

Call for Papers

Special issue on "Trustworthy Software Systems for the Digital Society"

Special Issue on Variability in Software Architecture

VIEW ALL

Most Downloaded Articles

ScienceDirect

Organisasi Pengindeks Journal

1. Thomson Reuters Web of Science
   - Since 1963, formerly produced by ISI, 12032 journals are indexed
   - Pengindeks journal yang memiliki level paling baik
   - *http://wokinfo.com*
2. Scopus
   - Launched by Elsevier in 2004, 20000 journals, conference papers and other are indexed
   - Pengindeks journal level standard, biasa untuk syarat menyelesaikan PhD
   - *http://scopus.com*
3. Google Scholar
   - Launched in 2004, mengindeks semua publikasi ilmiah yang online
   - *http://scholar.google.com*

** Organisasi pengindeks journal selain di atas (EBSCO, DBLP, ProQuest, dsb), boleh dikatakan selevel dengan Google Scholar*

Algoritma Perangkingan Journal

1. Journal Impact Factor (JIF)
   - Data source: ISI Web of Science
2. Eigenfactor Score (ES)
   - Data source: ISI Web of Science
   - *http://www.eigenfactor.org*
3. Scimago Journal Rank (SJR)
   - Data source: Scopus
   - *http://www.scimagojr.com*
4. Source Normalized Impact per Paper (SNIP)
   - Data source: Scopus
   - *http://www.journalindicators.com*
5. h-index
   - Data source: Google Scholar
   - *http://scholar.google.com/intl/en/scholar/metrics.html*

** JIF adalah algoritma yang digunakan oleh ISI, sedangkan SJR adalah algoritma yang digunakan oleh SCOPUS*

Sumber Pencarian Literatur

GRATIS

Journal

- http://sci-hub.io
- http://libgen.org
- http://scholar.google.com
- http://citeseer.ist.psu.edu

Buku

- http://bookzz.org
- http://learnr.pro

BERBAYAR

Journal

- http://sciencedirect.com
- http://www.ebscohost.com
- http://link.springer.com
- http://ieeexplore.ieee.org
- http://dl.acm.org

link.springer.com → sci-hub.io

Article

Open Access

Care episode retrieval: distributional semantic models for information retrieval in the clinical domain

Patients' health related information is stored in electronic health records (EHRs) by health service providers. These records include sequential documentation of care episodes in the form of clinical notes. EHRs ...

Hans Moen, Filip Ginter, Erwin Marsi... in *BMC Medical Informatics and Decision Making (2015)*

» Download PDF (2062 KB) » View Article

Article

Guest editorial: Special issue on information retrieval in the intellectual property domain

Allan Hanbury, Mihai Lupu, Noriko Kando, Barrou Diallo... in *Information Retrieval (2014)*

» Download PDF (146 KB) » View Article

Article

Information retrieval evaluation using test collections

Falk Scholer, Diane Kelly, Ben Carterette in *Information Retrieval Journal (2016)*

» Download PDF (318 KB) » View Article

Article

Special issue on visual information retrieval

Michael S. Lew in *International Journal of Multimedia Information Retrieval (2016)*

» Download PDF (356 KB) » View Article

Article

Contextual cues and the retrieval of information from cognitive maps

In three experiments, we investigated how retrieval cues affect memory for cognitive maps. Participants first

https://link.springer.com/article/10.1007/s10791-016-9281-7

Information Retrieval Journal

June 2016, Volume 19, Issue 3, pp 225–229

Information retrieval evaluation using test collections

Authors | Authors and affiliations

Falk Scholer, Diane Kelly, Ben Carterette

Article

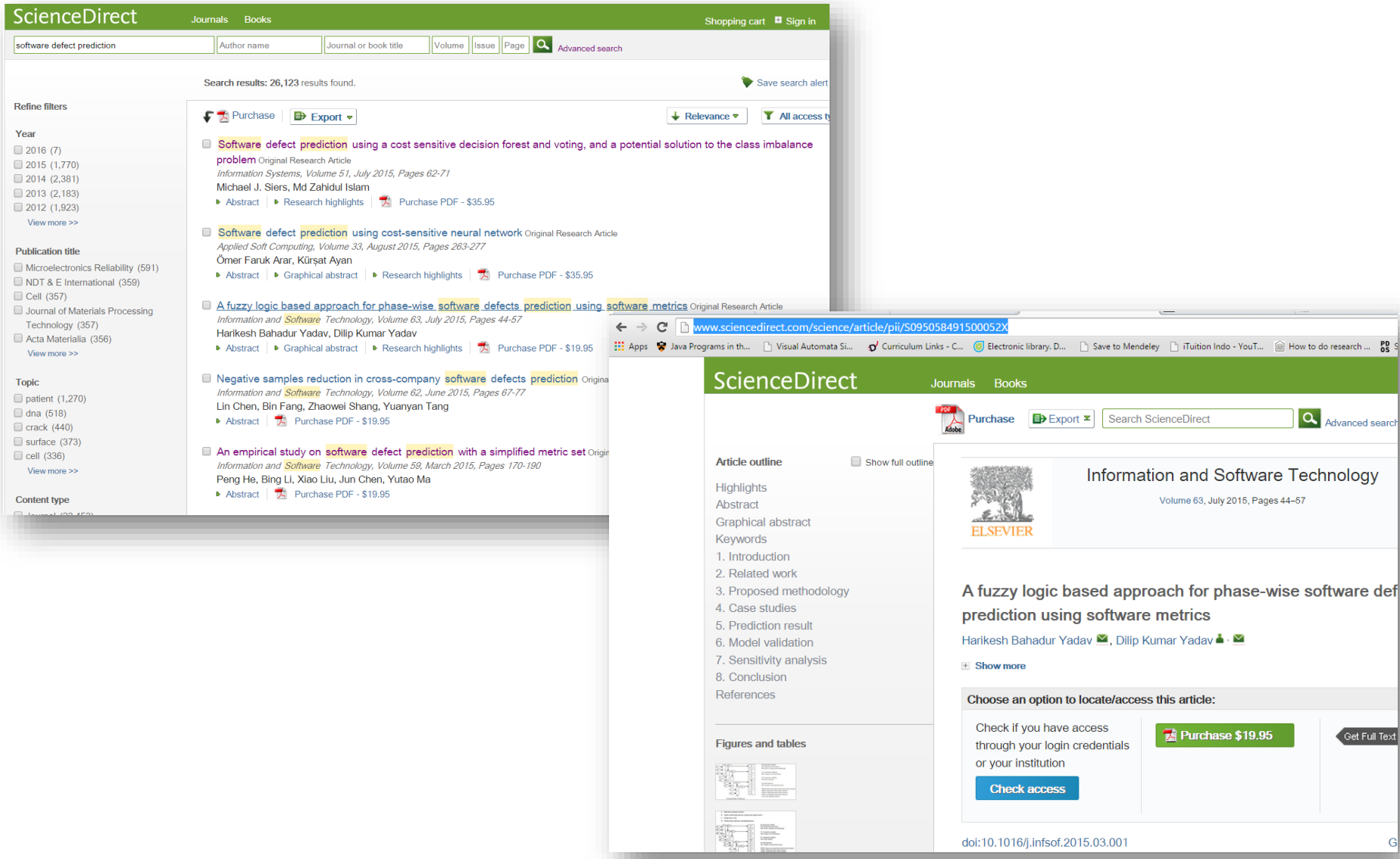
First Online: 10 June 2016

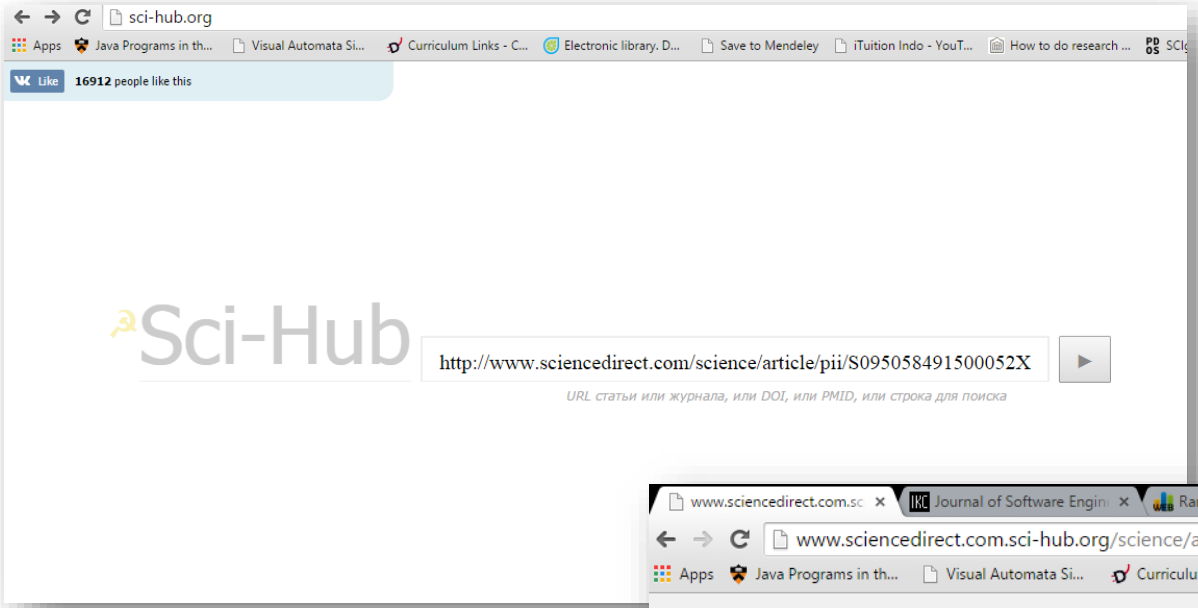
1.2k

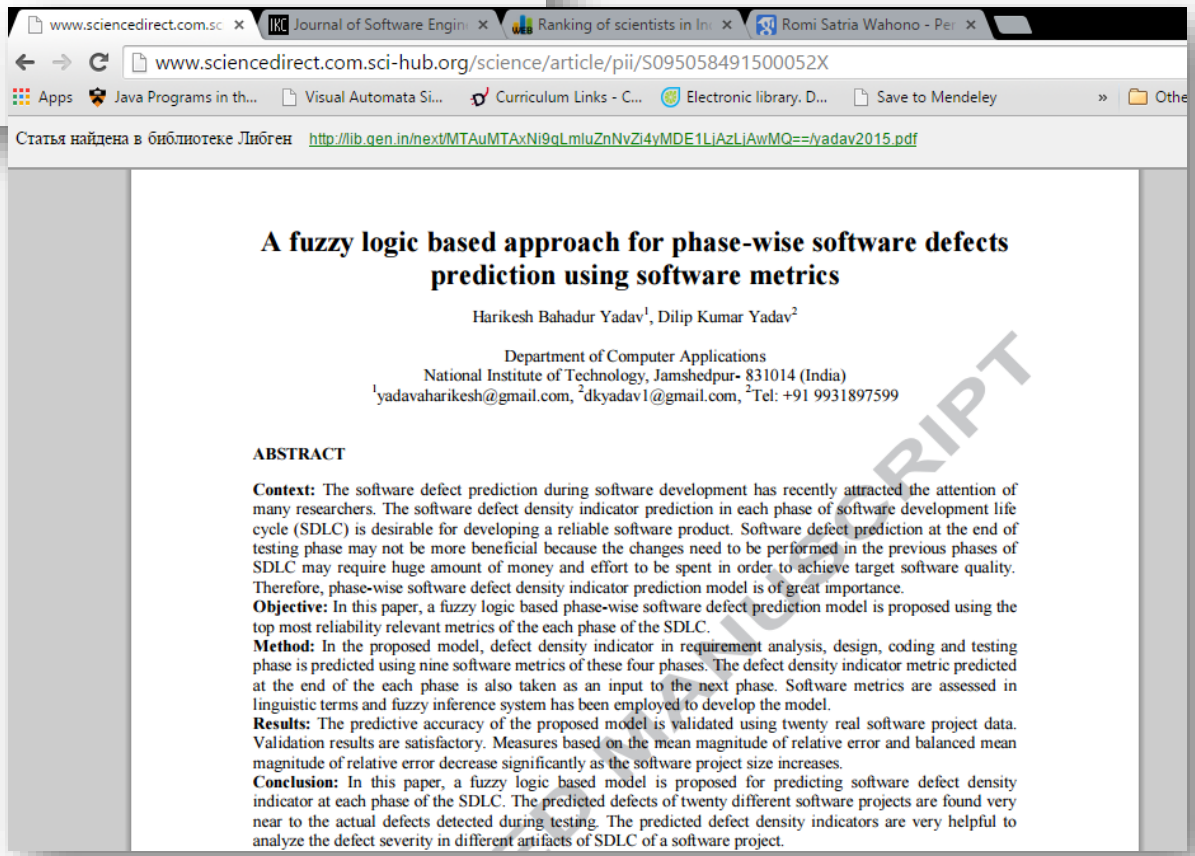
1 Introduction

Test collections are perhaps the most widely used tool for evaluating the effectiveness of information retrieval (IR) technologies. Test collections consist of a set of topics or information need descriptions, a set of information objects to be searched, and relevance judgments indicating which objects are relevant for which topics. Based on pioneering work carried out by Cyril Cleverdon and colleagues at Cranfield University in the 1960s (Cleverdon 1997), the popularity of test collections in IR evaluation has flourished in large part thanks to campaigns

sciencedirect.com → sci-hub.io







A fuzzy logic based approach for phase-wise software defects prediction using software metrics

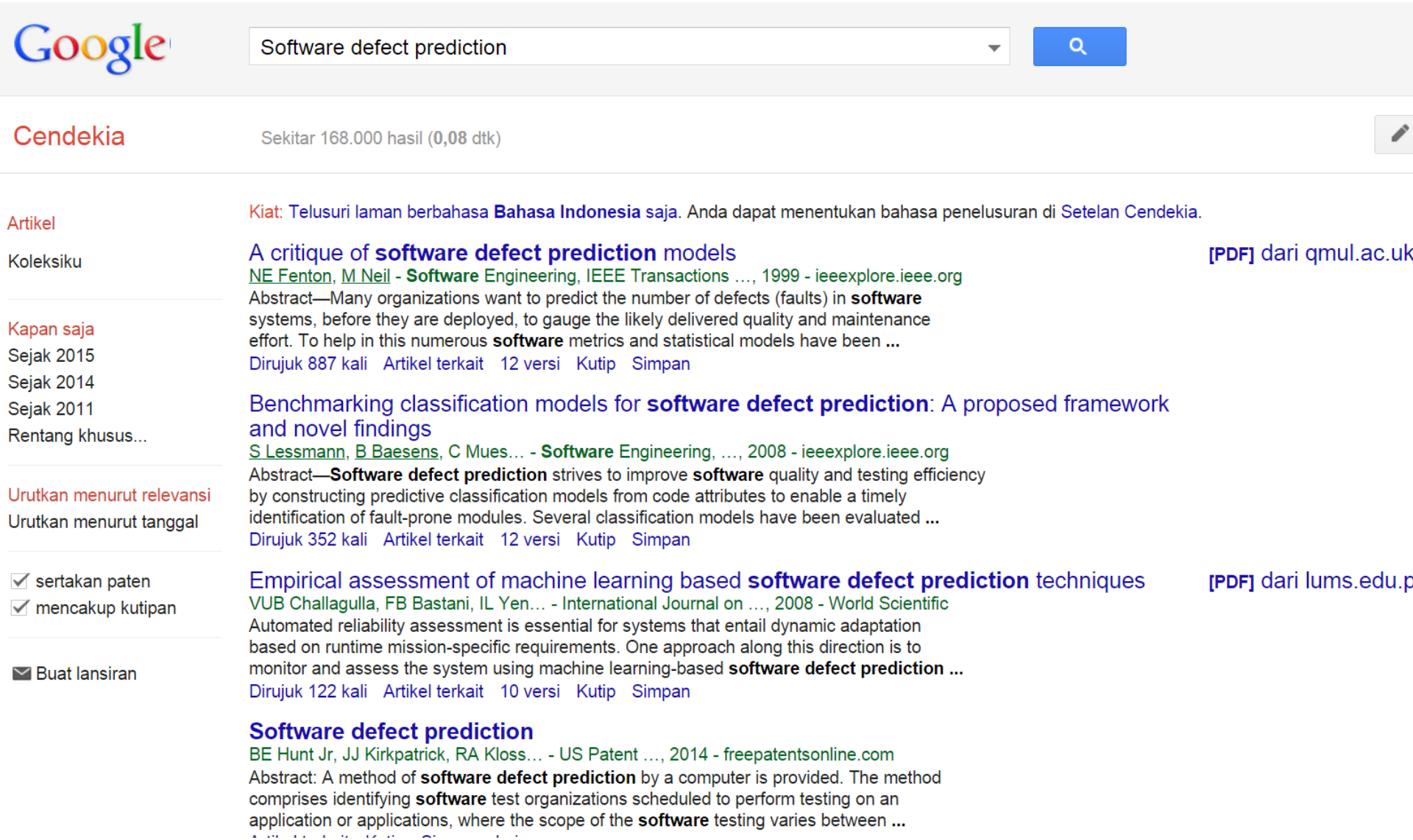
Harikesh Bahadur Yadav[1], Dilip Kumar Yadav[2]

Department of Computer Applications
National Institute of Technology, Jamshedpur- 831014 (India)
[1]yadavaharikesh@gmail.com, [2]dkyadav1@gmail.com, [2]Tel: +91 9931897599

ABSTRACT

Context: The software defect prediction during software development has recently attracted the attention of many researchers. The software defect density indicator prediction in each phase of software development life cycle (SDLC) is desirable for developing a reliable software product. Software defect prediction at the end of testing phase may not be more beneficial because the changes need to be performed in the previous phases of SDLC may require huge amount of money and effort to be spent in order to achieve target software quality. Therefore, phase-wise software defect density indicator prediction model is of great importance.
Objective: In this paper, a fuzzy logic based phase-wise software defect prediction model is proposed using the top most reliability relevant metrics of the each phase of the SDLC.
Method: In the proposed model, defect density indicator in requirement analysis, design, coding and testing phase is predicted using nine software metrics of these four phases. The defect density indicator metric predicted at the end of the each phase is also taken as an input to the next phase. Software metrics are assessed in linguistic terms and fuzzy inference system has been employed to develop the model.
Results: The predictive accuracy of the proposed model is validated using twenty real software project data. Validation results are satisfactory. Measures based on the mean magnitude of relative error and balanced mean magnitude of relative error decrease significantly as the software project size increases.
Conclusion: In this paper, a fuzzy logic based model is proposed for predicting software defect density indicator at each phase of the SDLC. The predicted defects of twenty different software projects are found very near to the actual defects detected during testing. The predicted defect density indicators are very helpful to analyze the defect severity in different artifacts of SDLC of a software project.

http://scholar.google.com

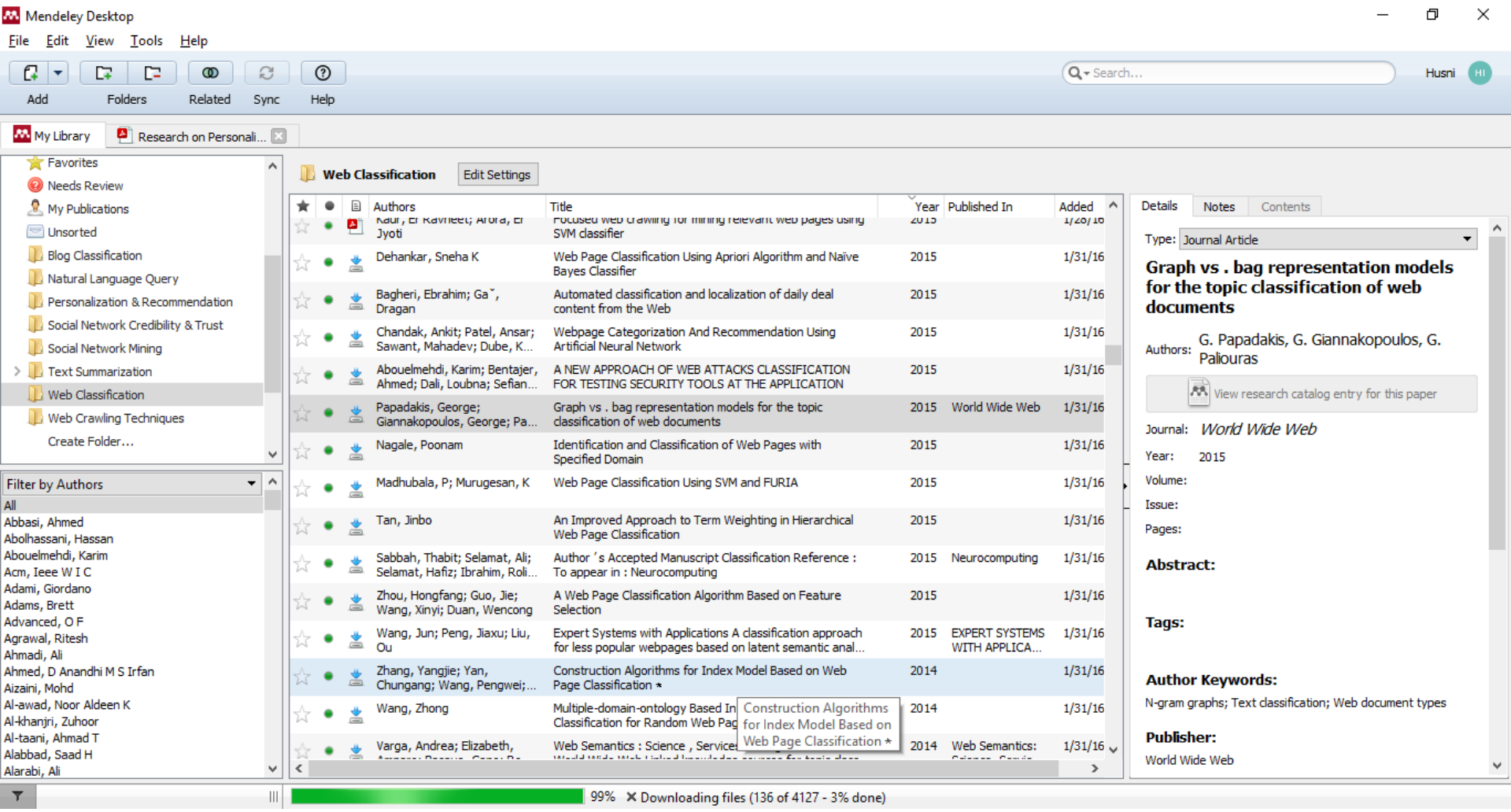


3.2 Teknik Mengelola Paper

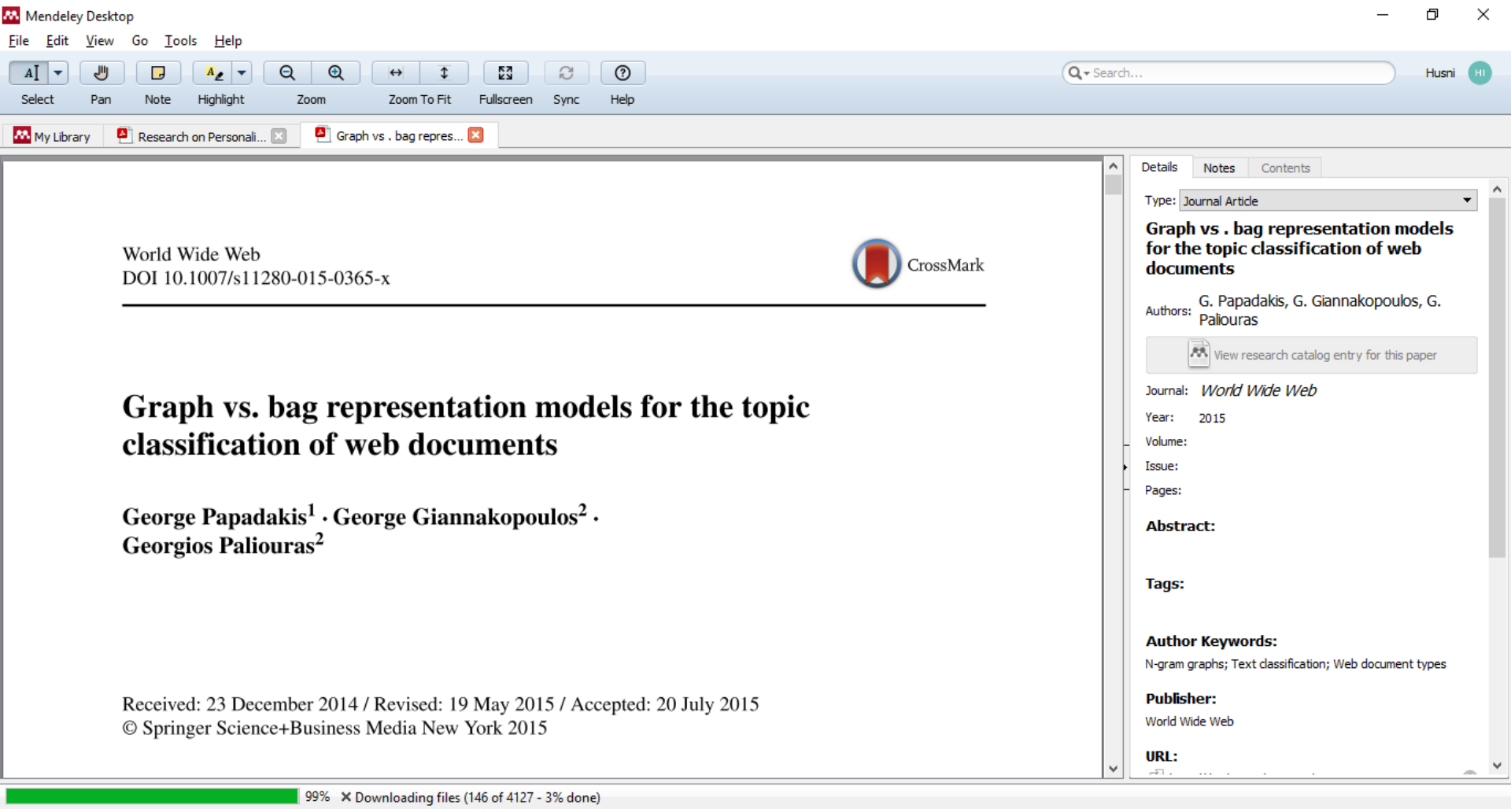
Mengelola Paper Yang Direview

- Buat account di mendeley.com dan download aplikasinya
- Buat folder dan sub folder pada aplikasi mendeley, dan letakkan paper (pdf) yang sudah didownload ke folder yang diinginkan di mendeley
- Bibliografi dari paper akan ditampilkan secara otomatis setelah pdf diletakkan
- Apabila mendeley gagal membaca bibliografi dari paper, cari DOI dari paper, isikan di catalog ID, dan setelah lookup dipilih, bibliografi akan muncul secara otomatis
- Install MS Word Plugin untuk membantu dalam menuliskan sitasi dan daftar referensi

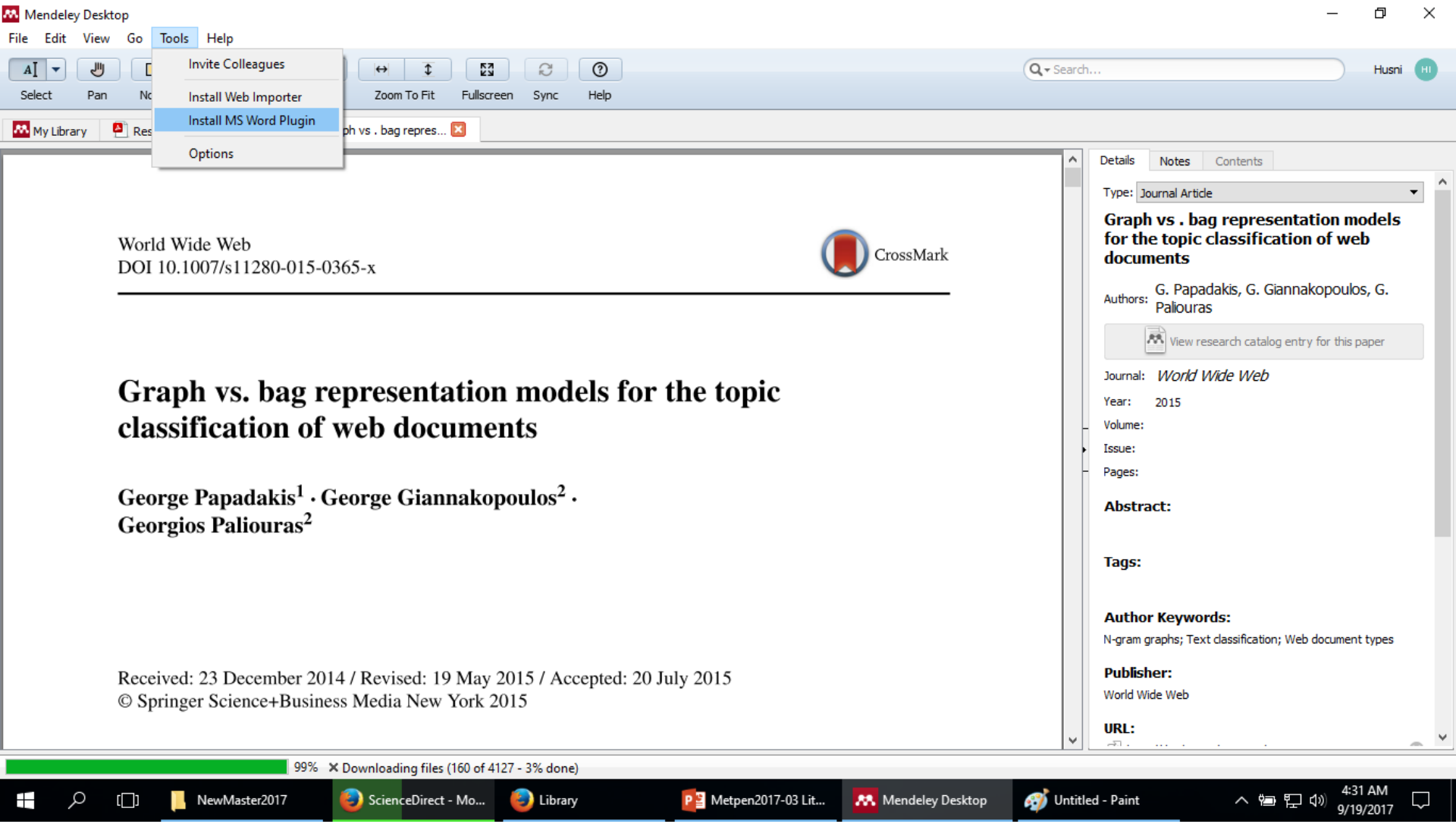
Mendeley Desktop



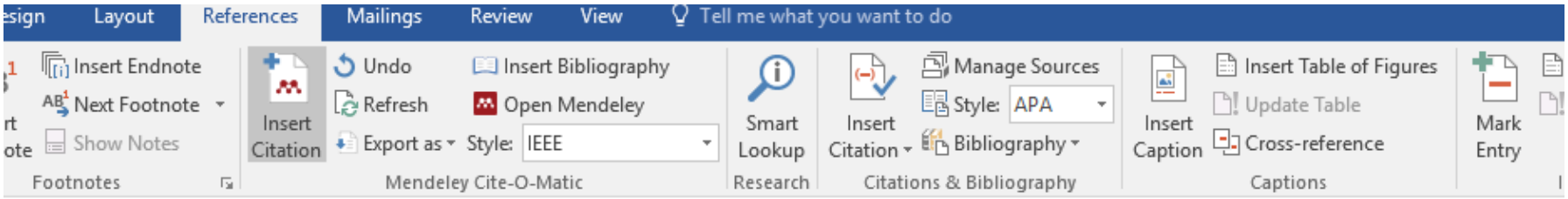
Membaca Paper di Mendeley



Menginstall Word Plugin



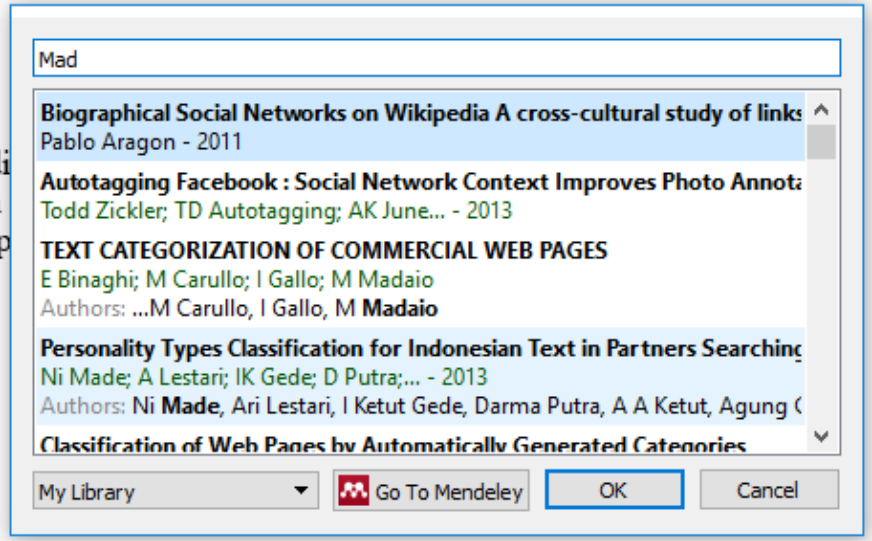
Sitasi dari Dalam Word



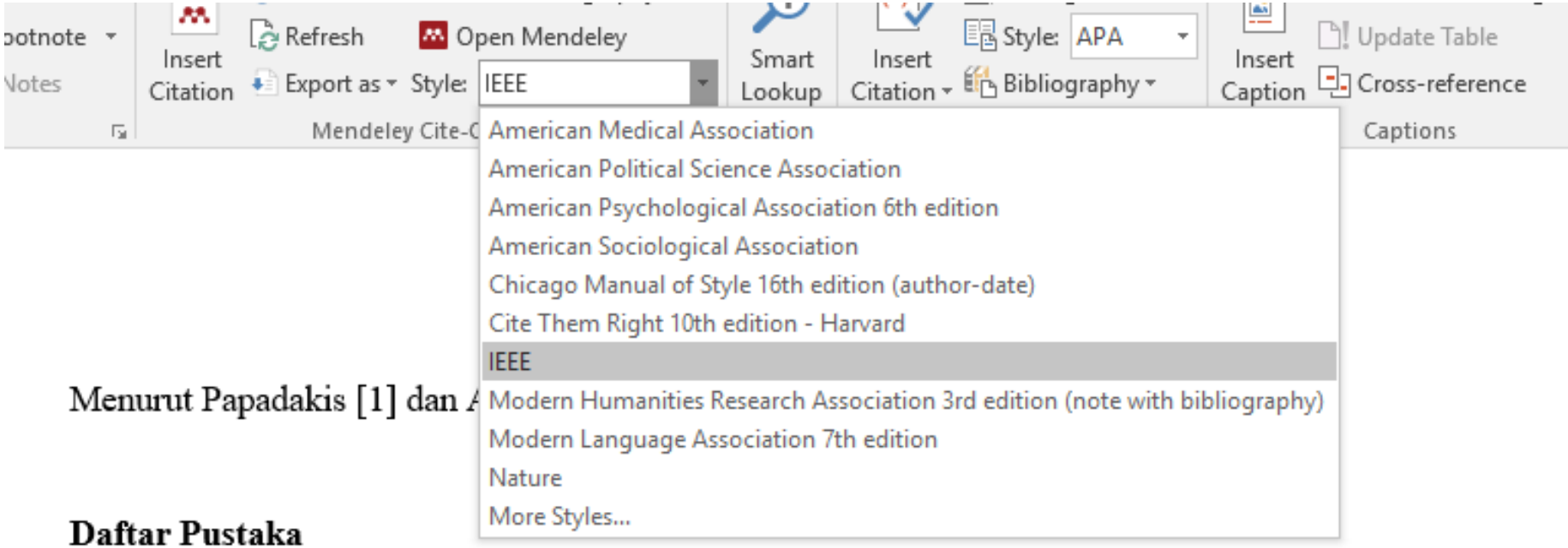
Menurut Papadakis [1] dan

Daftar Pustaka

[1] G. Giannakopoulos, P. Mavridi
Models for Text Classification
Categories and Subject Descrip



Penggantian Style Sitasi



Menurut Papadakis [1] dan A

Daftar Pustaka

[1] G. Giannakopoulos, P. Mavridi, G. Paliouras, G. Papadakis, and K. Tserpes, "Representation Models for Text Classification : a comparative analysis over three Web document types Categories and Subject Descriptors."

[2] P. Aragon, "Biographical Social Networks on Wikipedia A cross-cultural study of links that made history Categories and Subject Descriptors," pp. 3–6, 2011.

3.3 Teknik Mereview Paper

Jenis Paper Ilmiah

1. Technical Paper

1. Paper yang isinya adalah hasil penelitian dan eksperimen yang dilakukan seorang peneliti
2. Penilaian kualitas technical paper dari kontribusi ke pengetahuan

2. Survey Paper

1. Paper yang isinya adalah review dan survey tentang topik/tema suatu penelitian, biasanya jumlah penelitian yang direview mencapai ratusan atau ribuan
2. Rujukan dan panduan penting bagi peneliti yang baru memulai penelitian untuk memahami suatu topic/tema penelitian secara komprehensif

3.3.1 Technical Paper

Kiat Mereview Technical Paper

1. Pahami Masalah Penelitian
   - Apakah penelitian hanya menyelesaikan masalah yang dibuat-buat?
   - Apakah masalah penelitian dilandasi dan divalidasi?
2. Pahami Kontribusi
   - Apakah peneliti hanya mengulang hal yang sudah ada?
   - Apakah peneliti menyadari literatur lain yang berhubungan dengan penelitiannya?
   - Apa yang baru dan orisinil di paper itu (metodologi, algoritma, evaluasi, validasi, tool, dsb.)?
3. Pahami Validitas Kontribusi
   - Apakah teori atau model yang diusulkan sudah terbukti benar? Tidak adakah kesalahan pada pembuktian?
   - Adakah faktor-faktor aneh pada proses eksperimen penelitian?
   - Apakah *benchmark* yang dilakukan realistis atau hanya buatan? Ataukah membandingkan apel dan jeruk?
   - Apakah generalisasi cukup valid?

Masalah Penelitian

- Masalah penelitian adalah alasan utama mengapa penelitian harus dilakukan
- *Reviewer* jurnal internasional menjadikan “masalah penelitian“sebagai parameter utama proses review
- Masalah penelitian harus *objective* (tidak *subjective*), dan harus dibuktikan secara logis dan valid bahwa masalah itu benar-benar masalah
- Supaya logis dan valid, perlu dilakukan objektifikasi masalah, dengan cara melandasi masalah penelitian dengan literature terbaru.

Contoh Masalah Penelitian (1)

- Masalah Penelitian (*Research Problem*):
  - Neural network terbukti memiliki performa bagus untuk menangani data besar seperti pada data prediksi harga saham, tetapi memiliki kelemahan pada pemilihan arsitektur jaringannya yang harus dilakukan secara *trial and error*, sehingga tidak efisien dan mengakibatkan hasil prediksi kurang akurat
- Rumusan Masalah (*Research Question*):
  - **Bagaimana peningkatan akurasi dan efisiensi neural network** apabila pada pemilihan arsitektur jaringan diotomatisasi menggunakan **algoritma genetika**?
- Tujuan Penelitian (*Research Objective*):
  - Menerapkan algoritma genetika untuk mengotomatisasi pemilihan arsitektur jaringan pada neural nework sehingga lebih efisien dan hasil prediksi lebih akurat

Contoh Masalah Penelitian (2)

- *Research Problem* (RP):
  - Algoritma K-Means memiliki kelemahan pada sulitnya penentuan K yang optimal dan komputasi yang tidak efisien bila menangani data besar (Zhao, 2010)
- *Research Question* (RQ):
  - Seberapa efektif algoritma Bee Colony bila digunakan untuk menentukan nilai K yang optimal pada K-Means?
  - Seberapa efisien algoritma backward elimination bila digunakan untuk mengurangi jumlah atribut pada algoritma K-Means?
- *Research Objective* (RO):
  - Menerapkan algoritma bee colony untuk menentukan nikai K yang optimal pada K-Means
  - Menerapkan backward elimination untuk mengurangi jumlah atribut pada algoritma K-Means

Masalah Penelitian dan Landasannya

Masalah Penelitian	Landasan Literatur
Data set pada prediksi cacat software berdimensi tinggi, memiliki atribut yang bersifat noisy, dan classnya bersifat tidak seimbang, menyebabkan penurunan akurasi pada prediksi cacat software	There are noisy data points in the software defect data sets that can not be confidently assumed to be erroneous using such simple method *(Gray, Bowes, Davey, & Christianson, 2011)*
	The performances of software defect prediction improved when irrelevant and redundant attributes are removed *(Wang, Khoshgoftaar, & Napolitano, 2010)*
	The software defect prediction performance decreases significantly because the dataset contains noisy attributes *(Kim, Zhang, Wu, & Gong, 2011)*
	Software defect datasets have an imbalanced nature with very few defective modules compared to defect-free ones *(Tosun, Bener, Turhan, & Menzies, 2010)*
	Imbalance can lead to a model that is not practical in software defect prediction, because most instances will be predicted as non-defect prone *(Khoshgoftaar, Van Hulse, & Napolitano, 2011)*
	Software fault prediction data sets are often highly imbalanced *(Zhang & Zhang, 2007)*

Formulasi RP-RQ-RO

Research Problems (RP)		Research Questions (RQ)		Research Objectives (RO)	
RP	Data set pada prediksi cacat software berdimensi tinggi, dan memiliki atribut yang bersifat noisy, serta classnya bersifat tidak balance	RQ1	Algoritma pemilihan fitur apa yang performanya terbaik untuk meyelesaikan masalah atribut yang noisy pada prediksi cacat software?	RO1	Untuk mengidentifikasi algoritma pemilihan fitur apa yang memiliki performa terbaik apabila digunakan untuk menyelesaikan masalah atribut yang noisy pada prediksi cacat software
		RQ2	Algoritma meta learning apa yang performanya terbaik untuk menyelesaikan masalah class imbalance pada prediksi cacat software?	RO2	Untuk mengidentifikasi algoritma meta learning apa yang memiliki performa terbaik apabila digunakan untuk menyelesaikan masalah class imbalance pada prediksi cacat software
		RQ3	Bagaimana pengaruh penggabungan algoritma pemilihan fitur dan metode meta learning apabila digunakan untuk prediksi cacat software?	RO3	Untuk mengembangkan algoritma baru yang menggabungkan algoritma pemilihan fitur dan meta learning untuk prediksi cacat software

Syarat Masalah Penelitian -1-

- Menarik: Memotivasi kita untuk melakukan penelitian dengan serius
- Bermanfaat: Manfaat bagi masyarakat dalam skala besar maupun kecil (kampus, sekolah, kelurahan, dsb.)
- Hal Yang Baru: Solusi baru yang lebih efektif, murah, cepat, dsb. bila dibandingkan dengan solusi lain. Dapat juga merupakan perbaikan dari sistem dan mekanisme kerja yang telah ada

Syarat Masalah Penelitian -2-

- Dapat Diuji (Diukur): Masalah penelitian beserta variabel-variablenya harus merupakan sesuatu yang bisa diuji dan diukur secara empiris. Untuk penelitian korelasi, korelasi antara beberapa variabel yang diteliti juga harus diuji secara ilmiah dengan beberapa parameter.
- Dapat Dilaksanakan: Khususnya berkaitan erat dengan keahlian, ketersediaan data, kecukupan waktu dan dana. Hindari *research impossible* !

Syarat Masalah Penelitian -3-

- Merupakan Masalah Yang Penting: Jangan melakukan penelitian terhadap suatu masalah yang tidak penting
- Tidak Melanggar Etika: Penelitian harus dilakukan dengan kejujuran metodologi, prosedur harus dijelaskan kepada obyek penelitian, tidak melanggar *privacy*, publikasi harus dengan persetujuan obyek penelitian, tidak boleh melakukan penipuan dalam pengambilan data maupun pengolahan data

Latihan Mereview Paper

- Technical Paper:
  - Judul: Chinese Grain Production Forecasting Method Based on Particle Swarm Optimization-based Support Vector Machine
  - Author: Sheng-Wei Fei, Yu-Bin Miao and Cheng-Liang Liu
  - Publications: Recent Patents on Engineering 2009, 3, 8-12

- Tugas:

  Pahami dan rangkumkan paper di atas dalam 3 slide:

  1. Masalah penelitian
  2. Metode yang diusulkan
  3. Hasil penelitian

Prediksi Produksi Padi dengan SVM berbasis PSO

- Object: Padi
- Latar Belakang: Prediksi Produksi Padi
- Metode:
  - Konvensional: Remote Sensing, Statistik
    - Masalah: tingkat error tinggi, periode pendek
  - Time Series: NN, GM, SVM
    - SVM itu bisa mengatasi masalah yang ada di NN dan GM
- Masalah:
  - SVM itu bisa mengatasi masalah yang ada di NN dan GM, akan tetapi memiliki kelemahan pada pemilihan parameter (C, e, gamma)

Latihan Mereview Paper

- Technical Paper:
  - Judul: Resampling Logistic Regression untuk Penanganan Ketidakseimbangan Class pada Prediksi Cacat Software
  - Author: Harsih Rianto dan Romi Satria Wahono
  - Publications: Journal of Software Engineering, Vol. 1, No. 1, April 2015

- Tugas:

  Pahami dan rangkumkan paper di atas dalam 3 slide:

  1. Masalah penelitian
  2. Metode yang diusulkan
  3. Hasil penelitian

Latihan Mereview Paper

- Technical Paper:
  - Judul: Genetic Algorithms With Guided and Local Search Strategies for University Course Timetabling
  - Author: Shengxiang Yang and Sadaf Naseem Jat
  - Publications: IEEE Transactions on Systems, Man and Cybernetics Vol. 41, No. 1, 2011

- Tugas:

  Pahami dan rangkumkan paper di atas dalam 3 slide:

  1. Masalah penelitian
  2. Metode yang diusulkan
  3. Hasil penelitian

Latihan Mereview Paper

- Technical Paper:
  - Judul: Credal-C4.5: Decision tree based on imprecise probabilities to classify noisy data
  - Author: Carlos J. Mantas, Joaquín Abellán
  - Publications: Expert Systems with Applications 41 (2013) 4625–4627

- Tugas:
  Pahami dan rangkumkan paper di atas dalam 3 slide:
  1. Masalah penelitian
  2. Metode yang diusulkan
  3. Hasil penelitian

Latihan Mereview Paper

- Technical Paper:
  - Judul: Penerapan Metode Average Gain, Threshold Pruning dan Cost Complexity Pruning untuk Split Atribut pada Algoritma C4.5
  - Author: Erna Rahayu dan Romi Satria Wahono
  - Publications: Journal of Intelligent Systems, Vol. 1, No. 2, December 2015

- Tugas:

  Pahami dan rangkumkan paper di atas dalam 3 slide:

  1. Masalah penelitian
  2. Metode yang diusulkan
  3. Hasil penelitian

Latihan Mereview Paper

- Technical Paper:
  - Judul: Integrasi Kromosom Buatan Dinamis untuk Memecahkan Masalah Konvergensi Prematur pada Algoritma Genetika untuk Traveling
  - Author: Muhammad Rikzam Kamal dan Romi Satria Wahono
  - Publications: Journal of Intelligent Systems, Vol. 1, No. 2, December 2015

- Tugas:

  Pahami dan rangkumkan paper di atas dalam 3 slide:

  1. Masalah penelitian
  2. Metode yang diusulkan
  3. Hasil penelitian

Latihan Mereview Paper

- Technical Paper:
  - Judul: Genetic Feature Selection for Software Defect Prediction
  - Author: Romi Satria Wahono and Nanna Suryana Herman
  - Publications: Advanced Science Letters, Vol 20 No 1, 2014

- Tugas:

  Pahami dan rangkumkan paper di atas dalam 3 slide:

  1. Masalah penelitian
  2. Metode yang diusulkan
  3. Hasil penelitian

Latihan Mereview Paper

- Technical Paper:
  - Judul: Particle swarm optimization for parameter determination and feature selection of support vector machines
  - Author: Shih-Wei Lin, Kuo-Ching Ying, Shih-Chieh Chen, and Zne-Jung Lee
  - Publications: Expert Systems with Applications 35 (2008) 1817–1824

- Tugas:
  Pahami dan rangkumkan paper di atas dalam 3 slide:
  1. Masalah penelitian
  2. Metode yang diusulkan
  3. Hasil penelitian

Tugas Mereview Paper

REVIEW PAPER

Penulis, Judul, Jurnal, Tahun

JIF/SJR:

LATAR BELAKANG MASALAH

- Obyek Penelitian (What- Why)
- Metode-Metode yg Ada
- Analisis Gap Metode yg Ada

- Rangkum **Masalah Penelitian**

MASALAH PENELITIAN (MP) DAN LANDASAN

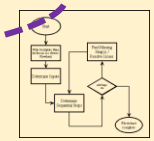
MP	LANDASAN
	Landasan (blablabla, 2014)
	Blablabla (john, 2013)
	Blablabla (Yang, 2014)

PENELITIAN YANG BERHUBUNGAN (PYB)

1. Metode A (2014)
2. Metode B (2015)
3. Metode C (2016)

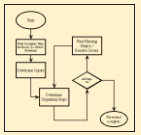
METODE A (2014)

- deskripsi
- deskripsi
- deskripsi
- deskripsi
- deskripsi



METODE B (2015)

- deskripsi
- deskripsi
- deskripsi
- deskripsi
- deskripsi



METODE C (2016)

- deskripsi
- deskripsi
- deskripsi
- deskripsi
- deskripsi

METODE YANG DIUSULKAN (MYD)

- deskripsi
- deskripsi
- deskripsi
- deskripsi
- deskripsi

ANALISIS PERBEDAAN PYB DAN MYD

M	P1	P2	P3
A			
B			
C			
MYD			

TAHAPAN PENELITIAN

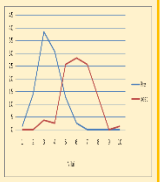
1. Tahap 1
2. Tahap 2
3. Tahap 3
4. Tahap 4

DATASET

- Penjelasan Dataset
- Penjelasan Dataset
- Penjelasan Dataset

HASIL PENELITIAN

- deskripsi
- deskripsi
- deskripsi
- deskripsi
- deskripsi



KESIMPULAN

- Kesimpulan 1
- Kesimpulan 2
- Kesimpulan 3

TUGAS:

1. Pilih Satu Paper dari Topik Penelitian yang Dipilih, yang Terbit di Jurnal Terindeks ISI/SCOPUS 3 Tahun Terakhir, Rangkum dengan Format di Atas
2. Rangkumkan SLR dengan Topik yang Sesuai Paper yang Dipilih
3. Rangkumkan Bagian Buku Teks yang Sesuai dengan Paper

3.3.2 Survey Paper

Literature Review

- This literature review aims to identify and analyze the *state-of-the-art research* in the software defect prediction field
- Type of Literature Review:
  1. Traditional Review
  2. Systematic Literature Review or Systematic Review
  3. Systematic Mapping Study (Scoping Study)
  4. Tertiary Study
- SLR is now well established review method in the field of software engineering

(Kitchenham & Charters, Guidelines in performing Systematic Literature Reviews in Software Engineering, EBSE Technical Report version 2.3, 2007)

1. Traditional Review

- Provides an overview of the research findings on particular topics
- Advantages: produce insightful, valid syntheses of the research literature if conducted by the expert
- Disadvantages: vulnerable to unintentional and intentional bias in the selection, interpretation and organization of content
- Examples:
  - Liao et al., Intrusion Detection System: A Comprehensive Review, Journal of Network and Computer Applications, 36(2013)
  - Galar et al., A Review on Ensembles for the Class Imbalance Problem: Bagging-, Boosting-, and Hybrid-Based Approaches, IEEE Transactions on Systems, Man, and Cybernetics, Part C (Applications and Reviews), Vol. 42, No. 4, July 2012
  - Cagatay Catal, Software fault prediction: A literature review and current trends, Expert Systems with Applications 38 (2011)

2. Systematic Mapping Study

- Suitable for a very broad topic
- Identify clusters of evidence (making classification)
- Direct the focus of future SLRs
- To identify areas for future primary studies
- Examples:
  - Neto et al., A systematic mapping study of software product lines testing, Information and Software Technology Vol. 53, Issue 5, May 2011
  - Elberzhager et al., Reducing test effort: A systematic mapping study on existing approaches, Information and Software Technology 54 (2012)

3. Systematic Literature Review (SLR)

- The purpose of a systematic literature reviews is to provide as complete a list as possible of all the published studies relating to a particular subject area
- A process of identifying, assessing, and interpreting all available research evidence, to provide answers for a particular research question
- A form of secondary study that uses a well-defined methodology
- SLRs are well established in other disciplines, particularly medicine. They integrate an individual clinical expertise and facilitate access to the outcomes of the research

(Kitchenham & Charters, Guidelines in performing Systematic Literature Reviews in Software Engineering, EBSE Technical Report version 2.3, 2007)

4. Tertiary study

- Is a SLR of SLRs
- To answer a more wider question
- Uses the same method as in SLR
- Potentially less resource intensive
- Examples:
  - Kitchenham et al., Systematic literature reviews in software engineering – A tertiary study, Information and Software Technology 52 (2010)
  - Cruzes et al., Research synthesis in software engineering: A tertiary study, Information and Software Technology 53 (2011)

Kiat Mereview Paper Survey

- Pahami Research Question (RQ) yang biasanya tertulis secara eksplisit di paper
- Jawaban RQ ada di bagian "result and analysis" di halaman belakang
- Perhatikan pelan-pelan apabila RQ ada tentang "best method/algorithm" karena di situ akan dibahas tentang state-of-the-art method
- Perhatikan juga RQ tentang "research challenge/problems", karena di situ dapat ditemukan masalah penelitian terkini (state-of-the-art problem)

Contoh Survey Paper

- Liao et al., Intrusion Detection System: A Comprehensive Review, Journal of Network and Computer Applications, 36(2013)
- Galar et al., A Review on Ensembles for the Class Imbalance Problem: Bagging-, Boosting-, and Hybrid-Based Approaches, IEEE Transactions on Systems, Man, and Cybernetics, Part C (Applications and Reviews), Vol. 42, No. 4, July 2012
- Hall et al., A Systematic Literature Review on Fault Prediction Performance in Software Engineering, IEEE Transaction on Software Engineering, Vol. 38, No. 6, 2012

Contoh Survey Paper

Prog Artif Intell (2012) 1:71–87
DOI 10.1007/s13748-011-0004-4

REVIEW

Scaling up data mining algorithms: review and taxonomy

Nicolás García-Pedrajas · Aida de Haro-García

Received: 4 June 2011 / Accepted: 26 September 2011 / Published online: 13 January 2012

Abstract The overwhelming amount of data that are now available in any field of research poses new problems for data mining and knowledge discovery methods. Due to this huge amount of data, most of the current data mining algorithms are inapplicable to many real-world problems. Data mining algorithms become ineffective when the problem size becomes very large. In many cases, the demands of the algorithm in terms of the running time are very large, and mining

Among the different techniques used for data mining, we will pay special attention to evolutionary methods, because these methods have been used very successfully in many data mining tasks.

Keywords Data mining · Scaling-up · Parallel algorithms · Very large datasets

Contoh Survey Paper

Sinoara *et al. Journal of the Brazilian Computer Society* (2017) 23:9
DOI 10.1186/s13173-017-0058-7

Journal of the
Brazilian Computer Society

RESEARCH Open Access

Text mining and semantics: a systematic mapping study

Roberta Akemi Sinoara*, João Antunes and Solange Oliveira Rezende

Abstract

As text semantics has an important role in text meaning, the term semantics has been seen in a vast sort of text mining studies. However, there is a lack of studies that integrate the different research branches and summarize the developed works. This paper reports a systematic mapping about semantics-concerned text mining studies. This systematic mapping study followed a well-defined protocol. Its results were based on 1693 studies, selected among 3984 studies identified in five digital libraries. The produced mapping gives a general summary of the subject, points some areas that lacks the development of primary or secondary studies, and can be a guide for researchers working with semantics-concerned text mining. It demonstrates that, although several studies have been developed, the

Latihan Mereview Paper Survey

- Survey Paper:
  - Judul: Intrusion Detection System: A Comprehensive Review
  - Author: Hung-Jen Liao, Chun-Hung Richard Lin, Ying-ChihLin, Kuang-YuanTung
  - Publications: Journal of Network and Computer Applications, 36(2013)

- Tugas:
  - Pahami dan rangkumkan paper di atas dalam bentuk slide dengan format:
    1. Identifikasi Research Question (RQ)
    2. Analisis jawaban dari Research Question (RQ)

Latihan Mereview Paper Survey

- Survey Paper:
  - Judul: A Systematic Literature Review of Software Defect Prediction: Research Trends, Datasets, Methods and Frameworks
  - Author: Romi Satria Wahono
  - Publications: Journal of Software Engineering, Vol. 1, No. 1, April 2015

- Tugas:

  Pahami dan rangkumkan paper di atas dalam bentuk slide dengan format:

  1. Identifikasi Research Question (RQ)
  2. Analisis jawaban dari Research Question (RQ)

Latihan Mereview Paper Survey

- Survey Paper:
  - Judul: Systematic literature review of machine learning based software development effort estimation models
  - Author: Jianfeng Wen, Shixian Li, Zhiyong Lin, Yong Hu, Changqin Huang
  - Publications: Information and Software Technology 54 (2012) 41–59

- Tugas:

  Pahami dan rangkumkan paper di atas dalam bentuk slide dengan format:

  1. Identifikasi Research Question (RQ)
  2. Analisis jawaban dari Research Question (RQ)

Latihan Mereview Paper Survey

- Survey Paper:
  - Judul: Variability in Software Systems: A Systematic Literature Review
  - Author: Matthias Galster, Danny Weyns, Dan Tofan, Bartosz Michalik, and Paris Avgeriou
  - Publications: IEEE Transactions on Software Engineering, Vol 40, No 3, 2014

- Tugas:
  - Pahami dan rangkumkan paper di atas dalam bentuk slide dengan format:
    1. Identifikasi Research Question (RQ)
    2. Analisis jawaban dari Research Question (RQ)

Latihan Mereview Paper Survey

- Survey Paper:
  - Judul: A Systematic Literature Review on Fault Prediction Performance in Software Engineering
  - Author: Tracy Hall, Sarah Beecham, David Bowes, David Gray, and Steve Counsell
  - Publications: IEEE Transaction on Software Engineering, Vol. 38, No. 6, 2012

- Tugas:

  Pahami dan rangkumkan paper di atas dalam bentuk slide dengan format:

  1. Identifikasi Research Question (RQ)
  2. Analisis jawaban dari Research Question (RQ)

Tugas, waktu: 7 Hari

- Tentukan bidang penelitian anda!
- Baca paper “survey” tentang bidang tersebut (≥10)
- Tentukan topik yang akan dikaji lebih lanjut
- Baca paper tentang topik tersebut (≥5)
- Rangkuman paper tersebut dalam bentuk tabel
  - Apa masalahnya
  - Apa solusi yang dipilih
  - Apa Research Question (RQ)-nya
  - Apa jawaban dari RQ tersebut?
  - Apa kelebihan dankekurangan solusi yang dipilih?
- Diprint pada selembar kertas A4, dikumpulkan!

Referensi

- Abbott, M., & McKinney, J. (2013). Understanding and Applying Research Design. John Wiley & Sons, Inc.
- Berndtsson, M., Hansson, J., & Olsson, B. (2008). Thesis Projects: a Guide for Students in Computer Science and Information Systems (2nd ed.). London: Springer-Verlag
- Blaxter, L., Hughes, C., & Tight, M. (2006). How to Research (3rd ed.). Open University Press
- Blessing, L. T. M., & Chakrabarti, A. (2009). DRM, a Design Research Methodology. Springer-Verlag London
- Cohen, L., Manion, L., & Morrison, K. (2005). Research Methods in Education (5th ed.). Taylor & Francis Group
- Dawson, C. W. (2009). Projects in Computing and Information Systems A Student's Guide (2nd ed.). Pearson Education Limited
- Jonker, J., & Pennink, B. (2010). The Essence of Research Methodology. Springer-Verlag Berlin Heidelberg
- Lichtfouse, E. (2013). Scientific Writing for Impact Factor Journals. Nova Science Publishers, Inc.

Referensi

- Kothari, C. (2004). Research Methodology: Methods and Techniques. New Age International
- Might, M. (2010). The Illustrated Guide to a Ph.D. Matt.might.net. Retrieved from *http://matt.might.net/articles/phd-school-in-pictures/*
- Marczyk, G., DeMatteo, D., & Fertinger, D. (2005). Essentials of Research Design and Methodology. John Wiley & Sons, Inc.
- Rea, L. M., & Parker, R. A. (2014). Designing and Conducting Survey Research: A Comprehensive Guide (4th ed.). John Wiley & Sons, Inc.
- Runeson, P., Host, M., Rainer, A., & Regnell, B. (2012). Case Study Research in Software Engineering: Guidelines and Examples. John Wiley & Sons, Inc.
- Sahu, P. K. (2013). Research Methodology: A Guide for Researchers In Agricultural Science, Social Science and Other Related Fields. Springer
- Veit, R., Gould, C., & Gould, K. (2013). Writing, Reading, and Research (9th ed.). Cengage Learning